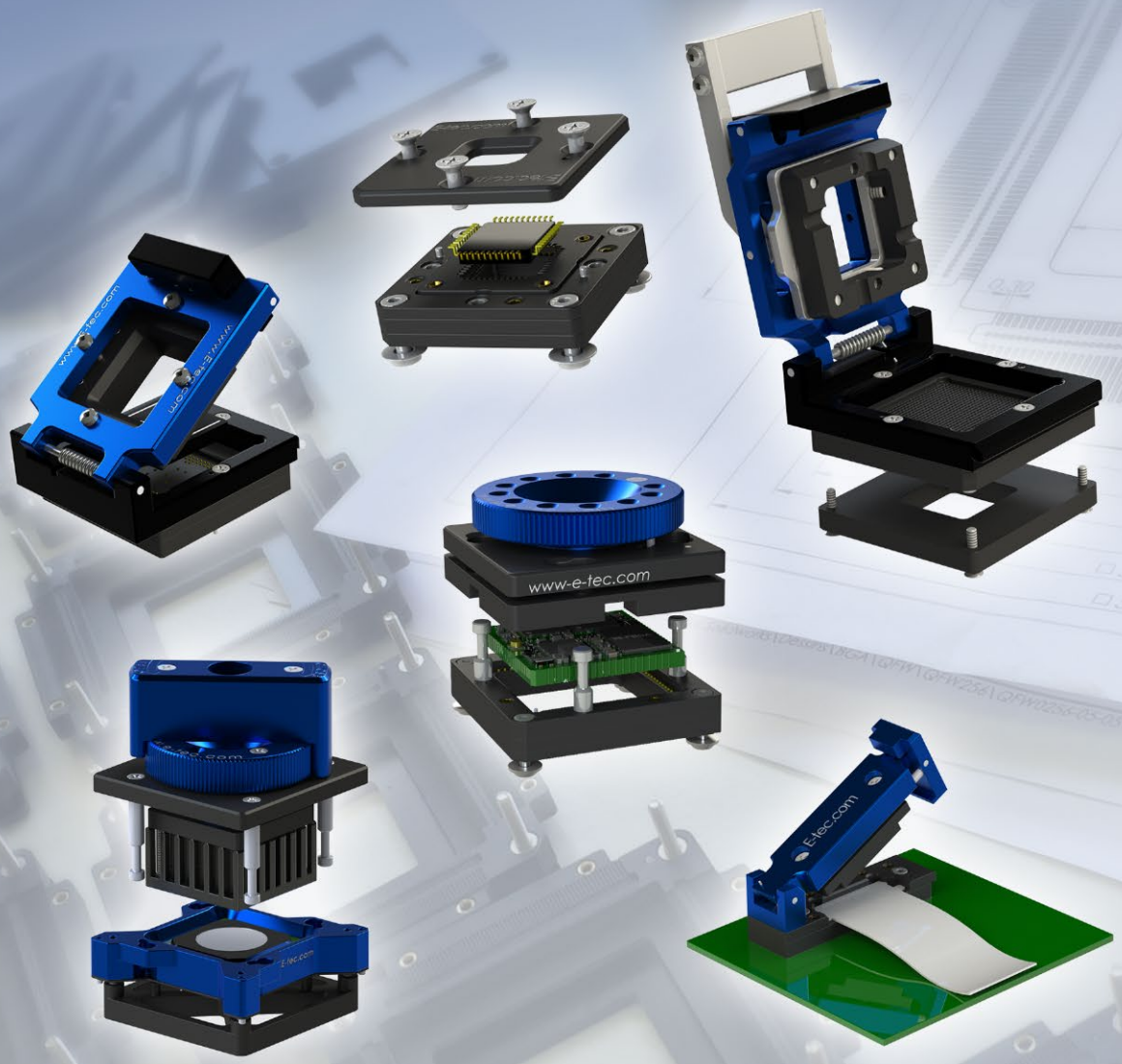
E-tec Interconnect



03

TEST SOCKETS & ADAPTERS

www.e-tec.com

Test Sockets & Adapters 03

Presentation

For BGA / Bumped chip / WLCSP / eMMC Package

For LGA / QFN / MLF / MLP / LCC Package

For CGA / PGA / PGI Package

For SOP / DSO / SOIC / QFP / xQFP Package

Adapters

Presentation

www.e-tec.com

You will be able to find our wide range of products: industrial connectors, I/O connectors, IC sockets, coaxial connectors, and of course Burn-In and IC Test sockets.

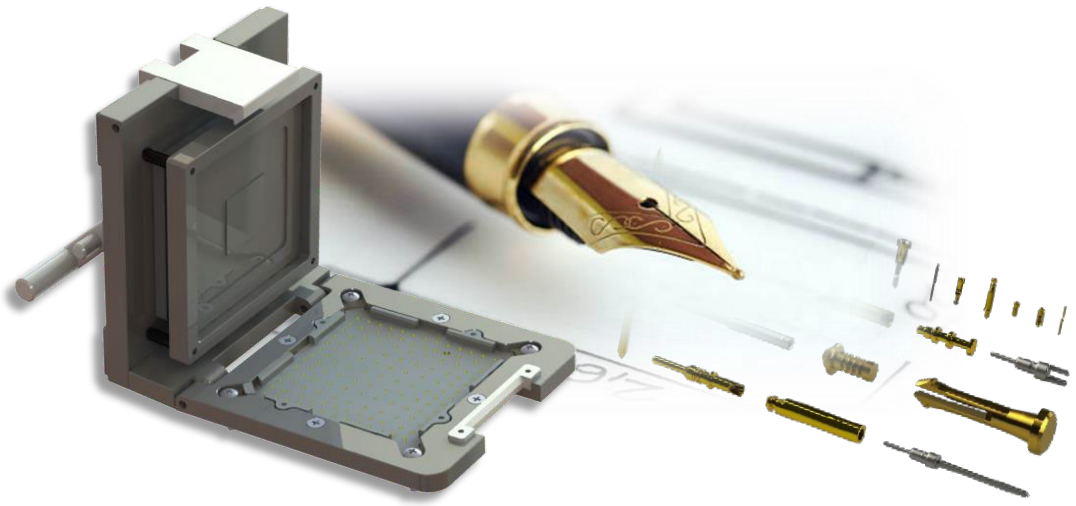
Our website is constantly updated and includes downloadable datasheets. You can also get 3D STEP files on request.

A long precision manufacture story

Since more than 40 years E-tec Interconnect has been active in the electronics interconnection field (IC Sockets, PCB interconnect products, D-Sub's, Switches, RF Connectors, etc.) and 20 years' experience in Test Socket and adaptors on a world-wide basis. E-tec Interconnect offers a very comprehensive range of industry standard products as well as many customized products which can be found in a variety of application fields, such as aeronautics, military, medical, communications, automotive, multi-media and many others.
Thanks to our own production facility we aim to offer a solution to all your problems.
Quality assurance is an essential part of our production process, since our main objective is to offer products which correspond to the highest quality standards.

Mission statement

Each customer has their own need and constraints. Space available, pitch, package or specific test each, all of this influence the test socket structure.
E-tec Interconnect has decided 25 years ago to invest in acknowledgment.



Welcome to E-tec Interconnect AG

*In 1996, **E-tec Interconnect** designed with success its first Test socket for their first BGA application, thanks to his long precise spare part manufacturing history. E-tec Interconnect registered patent for this new spring probe socket.*

*Since this period, **E-tec Interconnect** develops his experience and acknowledgment and now designs and manufactures any kind of **Test** Sockets, **Burn-in** sockets, **Debug** & **ATE** sockets.*

***E-tec Interconnect** keeps the same working principle, to pass the signal through a spring contact, but have involved and adapted it, for each of customer specific cases or applications. For semiconductor, military, automotive or space markets, E-tec Interconnect team reduced the pitch step by step to reach the smallest pitches; increased the frequency while we reduce impedance and perturbation in same time; enlarge the range of temperature on both side.*

Why E-tec Interconnect has success?

You can ask us for any kind of layout, in regular or totally irregular pitch, full populated or not, without extra cost.

You can get adapted and customized test socket as you need.

You can get the 3D STEP file for a fast and accurate control.

You can ask modification according this 3D verifying according your own boards constraints.

You're not invoiced of any charges or any NRE for customization. (Only if you talk about tooling for custom injected socket).

You have a very fast and efficient lead-time.

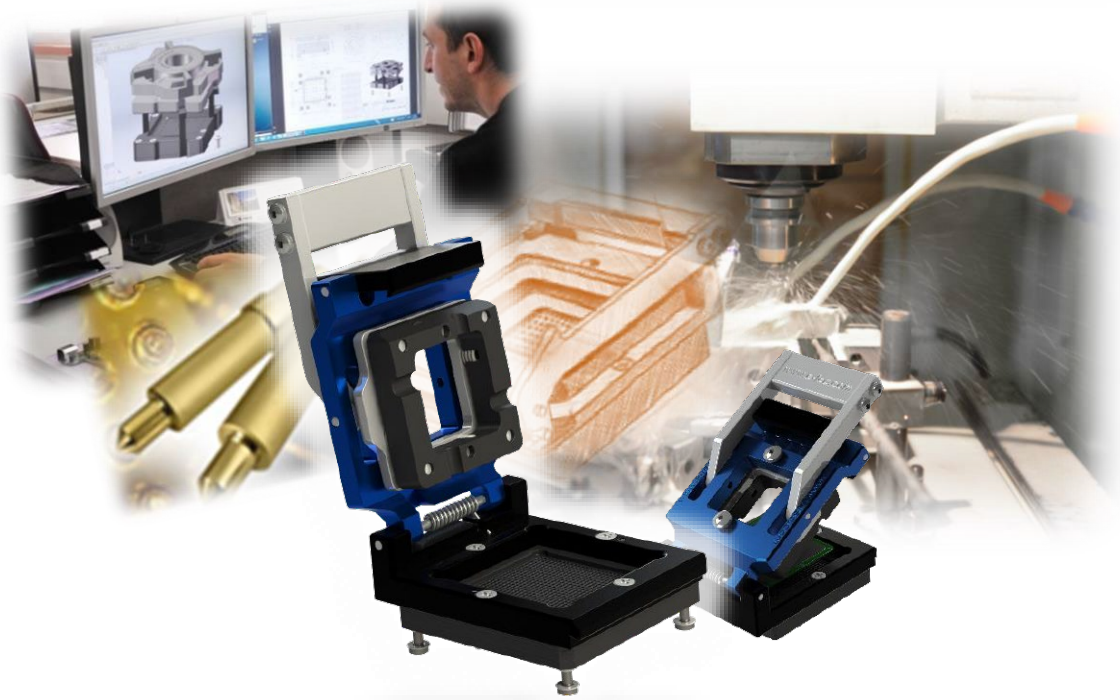
You can have a special team for you, to get up to 3 working days on departure, even if it is for a custom design.

Contents of the catalog

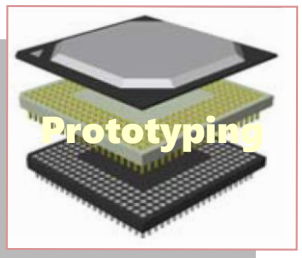
Here you will find all the information you need to choose the test sockets you need to meet your test requirements. For 40 years, E-tec Interconnect has taken great care to utilize our extensive engineering experience and leading edge technology to offer high performance test sockets and interconnects.
Anxious to display real characteristics and not just simulated on computer, this performance data is (dually) analyzed and controlled in the laboratory on physical sockets, (under real test conditions).

We know that everyone is unique because even with similar characteristics, your constraints whether electrical or mechanical will never be the same from one project to another. It is for this reason that we have cultivated a real customer approach.
.
E-tec Interconnect carefully focuses and listens to you, the customer. We have developed throughout our exchanges with project managers and engineers, a wide range of options and adaptations that can adapt to the majority of our sockets.

We are pleased to present our newly updated catalog of high quality products. We are confident that you will find an excellent solution to your testing interconnect requirements. Working with you, our engineering team will help design the highest performance, cost effective sockets and test interconnects available on the market today.



For which applications?



The 6 questions to build test socket and define your part number

- *1st: for what kind of **package**?*
- *2nd: for what kind of **pitch**?*
- *3rd: for what kind of test socket **mounting**?*
- *4th: for what kind of **retention frame** (lid)?*
- *5th: for what kind of test / **specifications**?*
- *6th : any **special request** ?(open top dimensions, restrictive area, mandatory layout and fixture, …)*

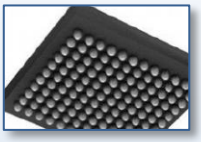
What kind of packages?

We can support all kind of packages and pitches from 0.30 mm.

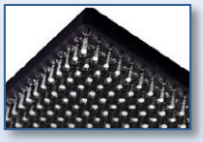
Package can be with or without leads, with or without balls, flat or bent, with regular pitch or completely irregular one. From the simplest up to the most complex shape.

To help you to find the right Test socket according your package, we classified and group packages as follows

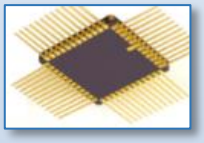
Balled package
Page 20 - 58
: BGA, xBGA, eMMC, eWLB, Bumped chip



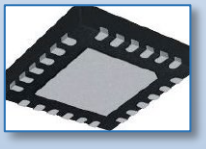
Vertical Pin package
Page 100 - 126
: PGA, PGI, CGA



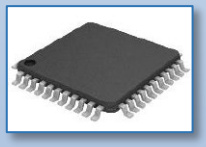
Flatpack package
Page 128 - 152
: Dual or Quad Flatpack (leads not bent)
Refer to “gull wings” packages



Without leads package
Page 60 - 98
: QFN, MLF, LCC, LGA …



“Gullwings” bent leads package
Page 128 - 152
: PLCC, xQFP, TSSOP, SOIC, TSOP, DSO, SOP

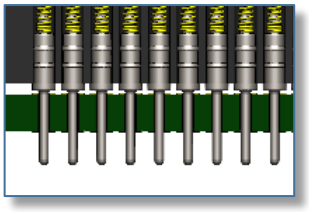


Multichip package / Custom package
Page 60 - 98
: PoP, SiP, WSI, castellation Pkg *(refer to LGA family)*

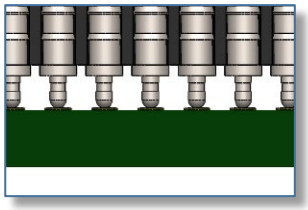
Mounting solutions introduction

THT Test Socket:

The Through-hole socket uses the same footprint as your chip. The socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a minimal amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we provide a compatible socket.



SMT Test Socket:



The E-tec Interconnect SMT socket is a very clever solution when you want to use a test socket without any modification on your board. Its high electrical performances will make it an excellent option to use in the majority of your designs.

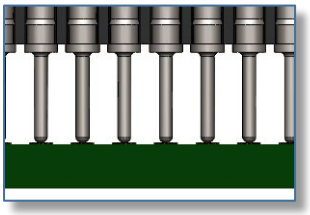
SMT sockets use the same footprint as your chip. The socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space.

SMT sockets are available with all retention systems. We aim to solve your requirements - many different terminals and configurations are available. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Raised SMT Test Socket:

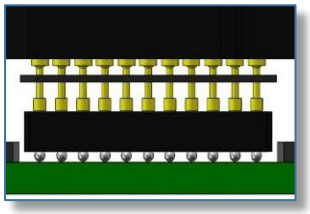
The E-tec Interconnect Raised SMT socket is a great solution when you don't need to save maximum space on your board.

The Raised SMT socket lifts the socket above close-by components on the PCB and uses the same footprint as your chip and requires no additional surface. The socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space.



Again, we aim to solve your requirements. For Raised SMT sockets in general, E-tec Interconnect recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

SMT / THT Adapter:

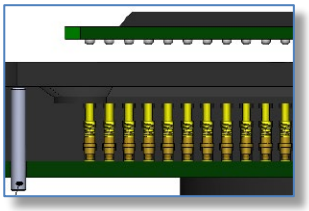


Most of the E-tec Interconnect Test Sockets can be transposed on a SMT adapter, with excellent efficiency and reliability.

Thanks to this solution, E-tec Interconnect is able to place a socket instead of the active component, onto a board even if it is not designed to receive any type of test socket, up to 0.4 mm pitch.

The SMT adapter is available either with solderball or with solid pin terminals. This SMT adapter emulates the chip's BGA footprint and is easily installed using standard flux and reflow techniques. The solder ball adapters have the same solder ball types as the IC's they are emulating. You can combine the SMT foot with any of the E-tec Interconnect socket styles shown in the Test Socket Catalog. The corresponding male BGA socket, through hole type, is plugged into the adapter.

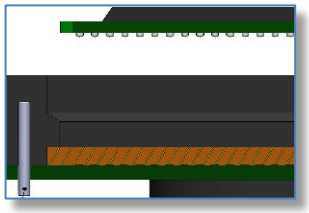
Solderless Pogo Pin Test socket:



The E-tec Interconnect solderless compression type sockets are an excellent solution for maximum reliability with high frequency performance.
Solderless compression type sockets are available for any chip size and grid pattern.

The solderless socket is easily mounted to the PCB with 2, 4 or 8 through hole mounting pegs. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Solderless compression type sockets are available with all retention systems. Our goal is to solve your requirements - many different terminals and configurations are available.

Solderless Elastomer Test Socket:



The E-tec Interconnect Elastomer sockets are an ideal technical solution for excellent signal integrity with low signal loss.

E-tec Interconnect Elastomers are available for any chip size and pitch to 0.3 mm pitch. Our different options enable us to offer our customers several thicknesses and contact density, to reach the best performance on the market, at greater than 40 GHz (at -1dB in insertion loss S21), with a very stable impedance at 50 Ohm.

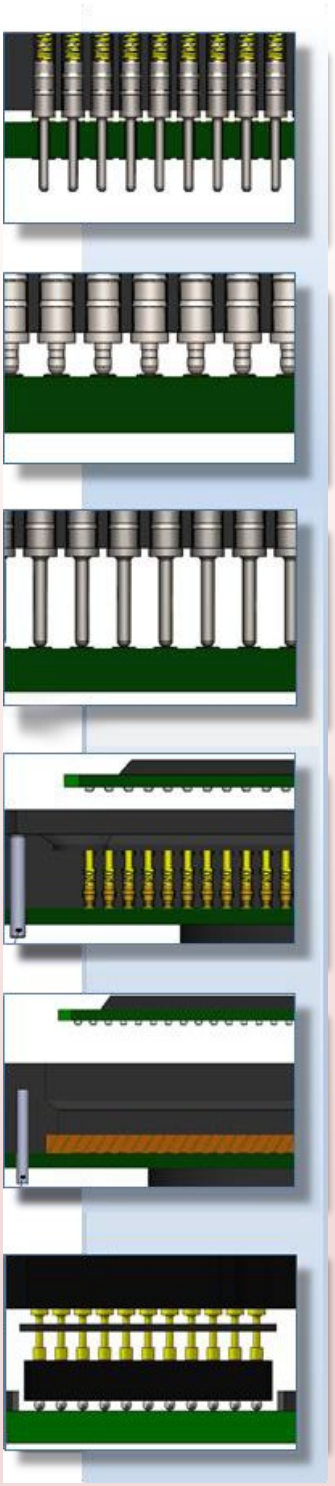
The standard version is the solderless socket style, which is attached with 2, 4 or 8 screws to connecting to the PCB. SMT and through-hole adapter sockets are available in certain pitches (please contact our factory for availability) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or through-hole sockets. The retainer can be delivered with a center opening for die access and the socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.

The E-tec Interconnect Elastomer socket can be continuously used in applications with temperatures up to 125ºC and with intermittent peaks to higher temperatures.

Mounting solutions

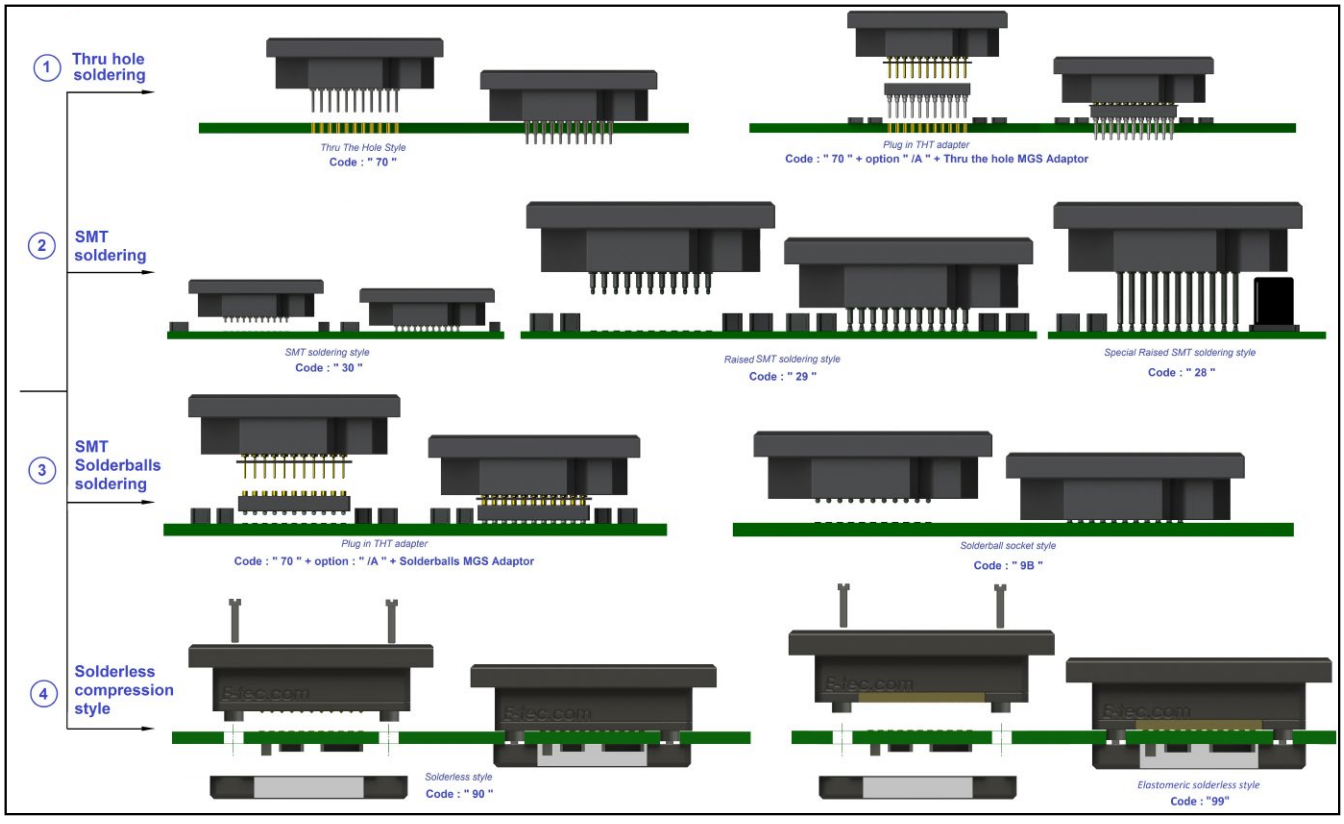
E-tec Interconnect *proposes you all kind of mounting you could need in aim to manage your test of your component, thanks to his large range of capability:*

- Through hole
- SMT pin
- Raised SMT
- Solderless compression
- Elastomer solderless compression
- Solderballs *(thanks to adapter)*



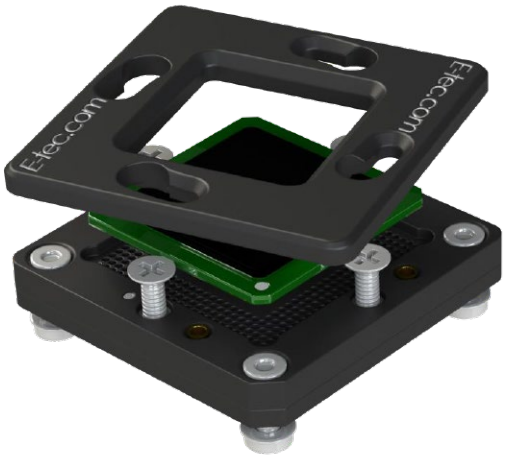
Global view summary

	Mounting style				
Pitch available	Through-hole style (##70)	SMT style (##30)	Raised SMT style (##28 / ##29)	Solderballs style (thanks to an adpater)	Solderless style (##9#)
From 0.3 mm to 0.4 mm	no	no	no	no	yes
From 0.4 mm to 0.5 mm	no	no	no	no	yes
From 0.5 mm to 0.8 mm	yes	yes	yes	yes	yes
From 0.8 mm to 1.0 mm	yes	yes	yes	yes	yes
From 1.0 mm to 1.27 mm	yes	yes	yes	yes	yes
From 1.27 mm and higher	yes	yes	yes	yes	yes
Spring Pogo pin style	yes	yes	yes	yes	yes
Elastomeric style	no	no	no	no	yes
Advantage	the cheapest mounting style	no impact on PCB	the best solution to take the least space on PCB	same reflow process as a smt component	no soldering process to fix
Drawback	difficult to find PCB vendor with metalized holes < 0.6 mm	soldering way similar as a QFP package	need requires to have a sticking process for fixing	need to pass thru a adapter	a little bit more expensive compare other technologies
Electrical specifications	very good 3GHz	very good 3GHz	good < 3Ghz	good < 3Ghz	excellent up to 40 GHz

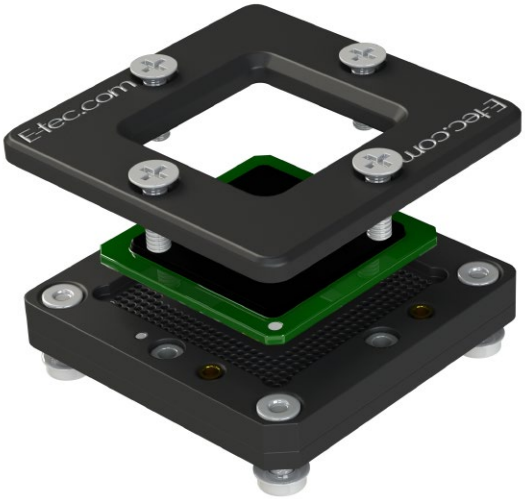


E-tec Interconnect takes special care to support the needs of his clients, and so naturally develop and large range of choice for the retention frame. All of them, can be selected on any socket base thanks to some light adaptation. Furthermore, all of them are open top. Last advantage, on not the least, almost of our retention frame accept a large variation.

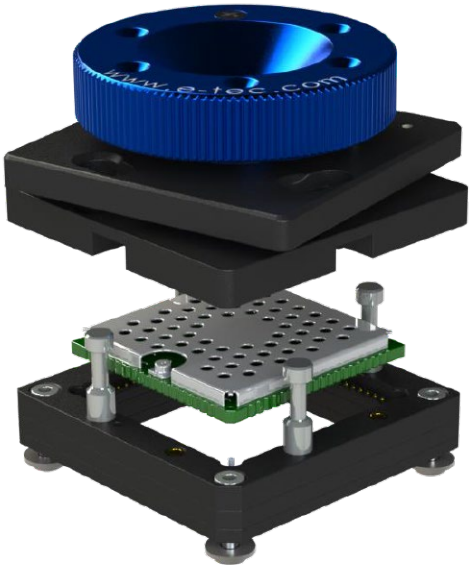
TwistLock
(Code: W)



ScrewLock
(Code: S)

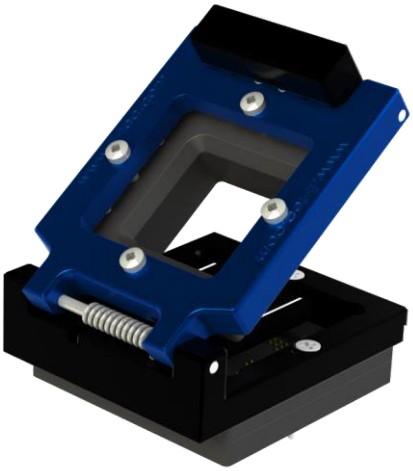


FastLock
(Code: F)



SpringLock
(Code: B)

Open Clamshell Alu
(<200 contacts chip)
(Code: H)

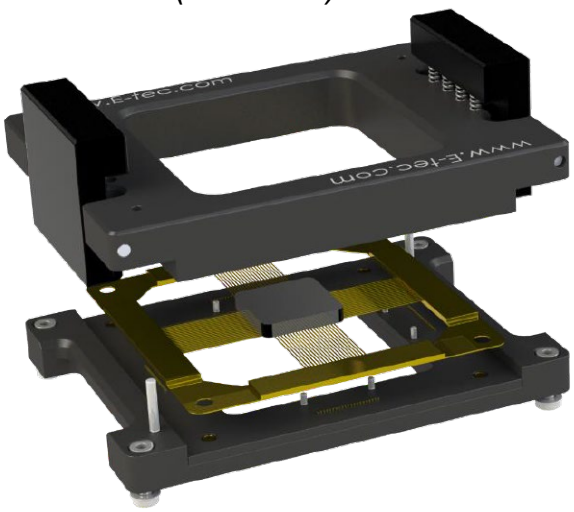


Clamshell Alu
(>200 contacts chip)
(Code: J)

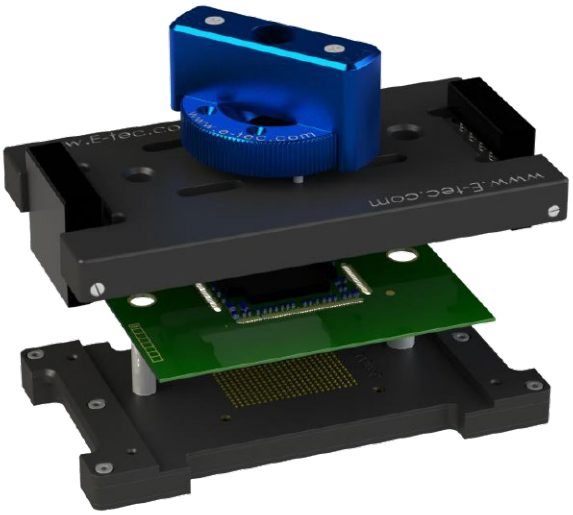
Open Lever Clamshell Alu
(>200 contacts chip)
(Code: L)

Injection Molded
(Code: M)

Open QuickLock
(<200 contacts chip)
(Code: Q)

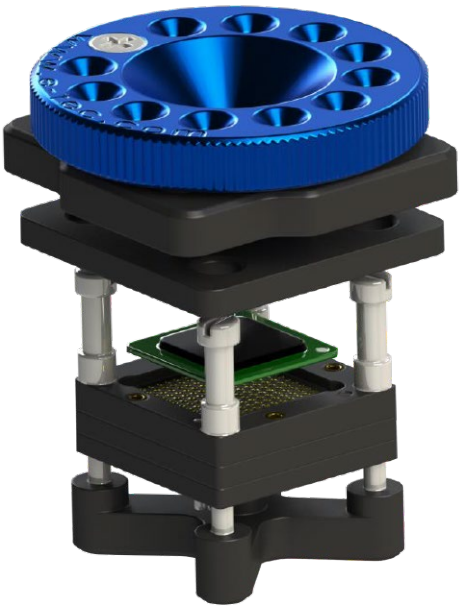


QuickLock
(>200 contacts chip)
(Code: D)



ReverseLock
(Code: R)

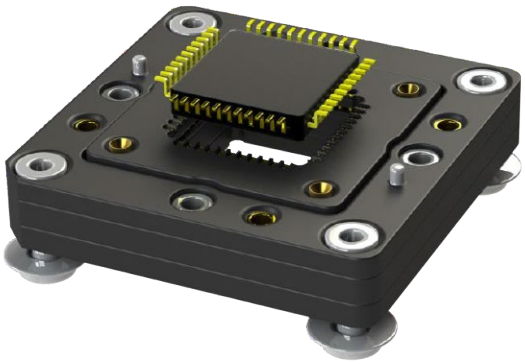
SlimLock
(Code: T)



The below chart will help you to make the right choice of Retention / Retainer frame for your Test Socket.
The indicated information refers to standard options. If you should not find what you need or if your specs should vary from the below chart, please contact your closest E-tec office, since we will most likely be able to offer a customized solution.

Retention frame style	Socket Cost	Open top	Open/close cycles	Socket outline dimension	Socket height above board	Tools required to open/close	Torque tool option	available with integrated heatsink	Accepted max. chip height variations from min to max
TwistLock / ScrewLock	low	yes	1 K	smallest	lowest	yes	yes	yes	3.0 mm
FastLock	low	yes	10 K	small	high	no	yes	yes	2.5 mm
SpringLock	low	yes	10 K	small	medium	no	no	yes	2.0 mm
Open Clamshell Alu (<200 contacts)	medium	yes	25 K	large	medium	no	no	yes	1.0 mm
Clamshell Alu (>200 contacts)	medium	yes	25 K	large	high	no	yes	yes	2.5 mm
Open Lever Clamshell Alu (>200 contacts)	medium	yes	25 K	large	medium	no	no	yes	1.0 mm
Open QuickLock (<200 contacts)	medium	yes	25 K	medium	medium	no	no	yes	1.0 mm
QuickLock (>200 contacts)	medium	yes	25 K	medium	high	no	yes	yes	2.5 mm
Injection Molded ClamShell	low	no	10 K	medium	medium	no	yes	no	1.0 mm
ReverseLock	medium	yes	10 K	large	high	no	yes	yes	2.5 mm
SlimLock	medium	yes	10 K	smallest	high	no	yes	yes	2.5 mm

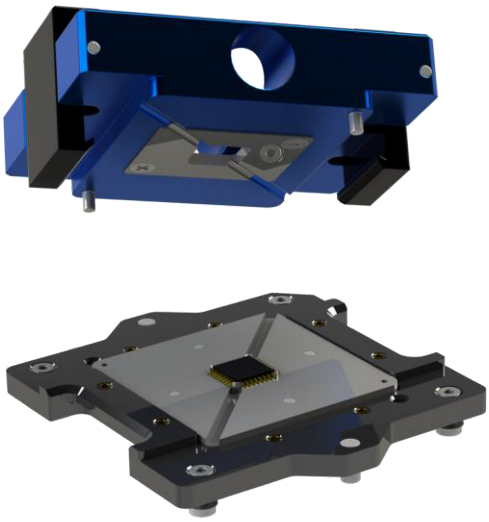
Dead bug
*(Option code: **D**)*



Multi frames
*(Option code: **M**)*

Multi packages
*(Option code: **U**)*

Custom opening slot
*(Option code: **S**)*



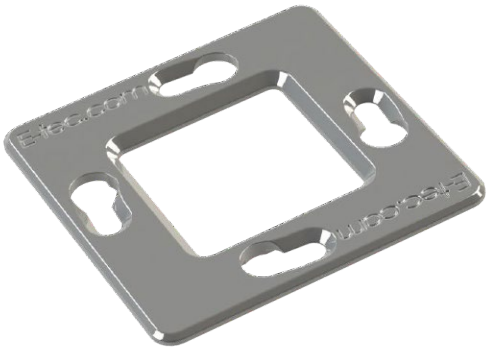
Heatsink
*(Option code:**H**)*

Fan + Heatsink
*(Option code:**HF**)*

Thermal drain pad
*(Option code:**T**)*

Transparent lid
*(Option code:**W**)*

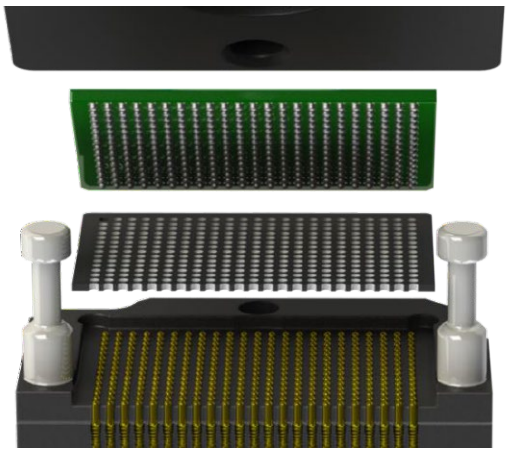
Steel retention lid
(Option code: i)



Aluminum retention lid
(Option code: B)

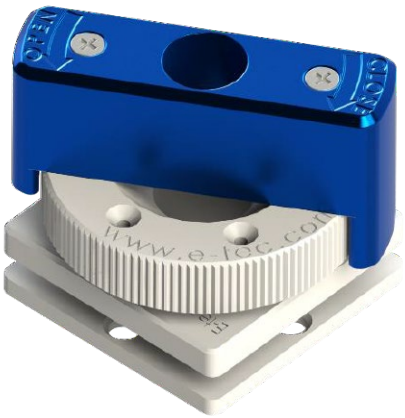
Torque tool fixture
(Option code: T)

LGA to BGA Converter plate
(Option code: C)



Locating peg
(Option code: L)

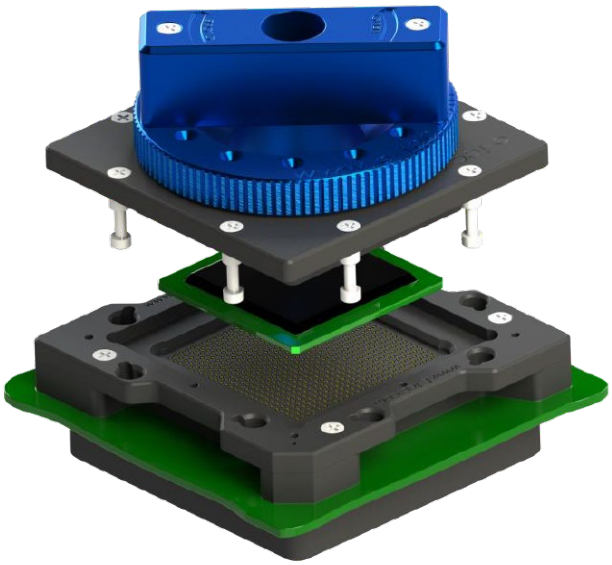
Handling button
(Option code: G)

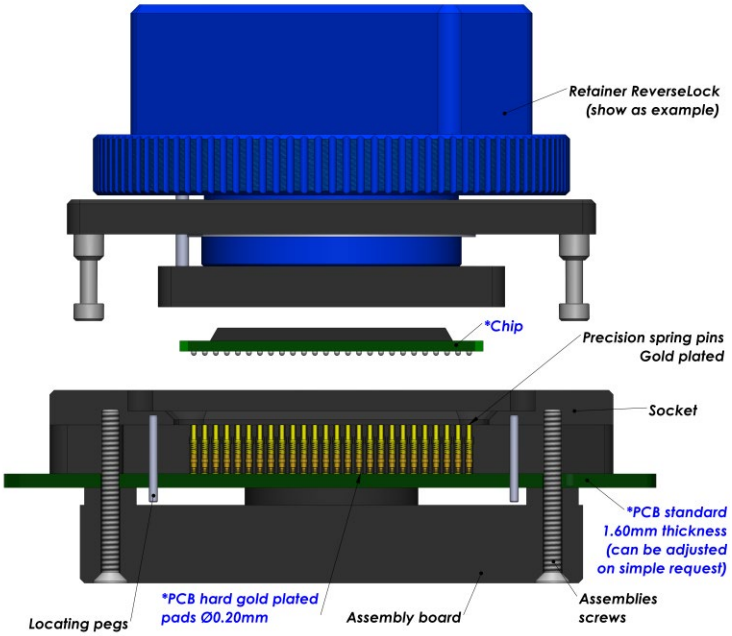


Probe Pin Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.30 mm pitch (from 0.30 mm to 0.39 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications	
Contact type code	**0398**
Application	High Frequency
Mounting	Solderless
Bandwidth (GHz@-1dB)	19 GHz
Contact resistance	<100 mOhm
Chip contact tip shape	Single Point tip
PCB tip shape	Single Point tip
Force	17 gr
Current rating	0.8 A
Capacitance pF	0.50 pF
Inductance nH	1.27 nH
Impedance Ohms	45 Ω
Temperature range	-45°C to +125°C
Mating cycles	150 K

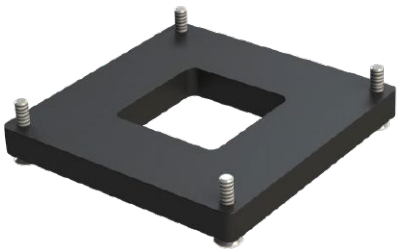
More on the next page

RoHS compliant

Standard assembly boards

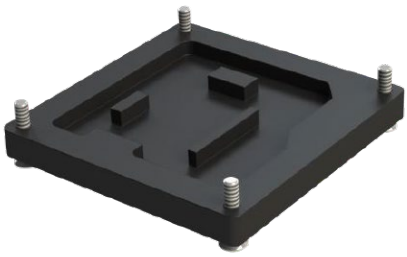
Small Chip size

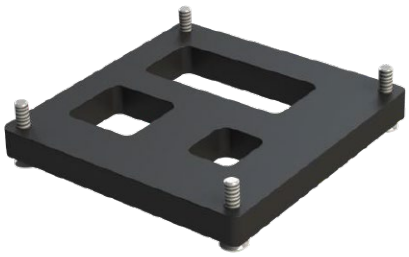
Medium Chip size



Large Chip size

Custom assembly boards





How to order

BU # ####-0398-######55L #

Shape of tip
U : Concave
Options:
P : Pointed
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
98 : See "Contacts specification" chart

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

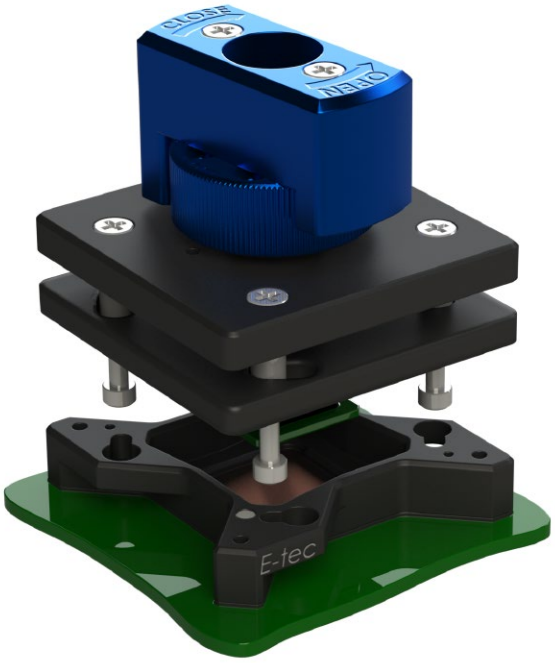
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

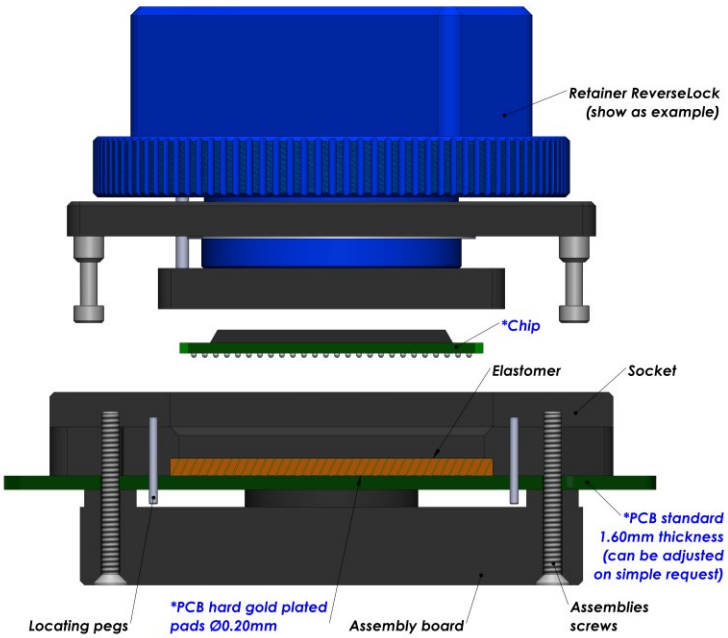
RoHS compliant

Elastomer Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.30 mm pitch (from 0.30 mm to 0.39 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The elastomer solderless compression test sockets are ideal technical solution for good signal integrity with low signal loss.
The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications		
Contact type code	**E2**	**E3**
Application	High Frequency	
Mounting	Solderless	Solderless
Bandwidth (GHz@-1dB)	20.3 GHz*	18.3 GHz*
Contact resistance	30 mOhm	
Chip contact tip shape	Gold Wire	
PCB tip shape	Gold Wire	
Force	20 gr to 50 gr	
Current rating	1 A	
Capacitance pF	0.15 pF	0.14 pF
Inductance nH	0.12 nH	0.05 nH
Impedance Ohms	41 Ω	39.7 Ω
Temperature range	-40°C to +125°C	
Mating cycles	1 K	

* Tested at 0.35mm Pitch

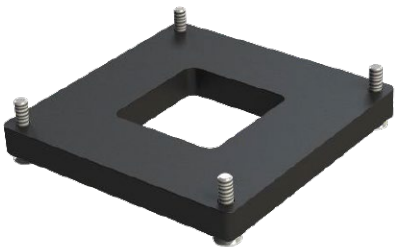
More on the next page

RoHS compliant

Standard assembly boards

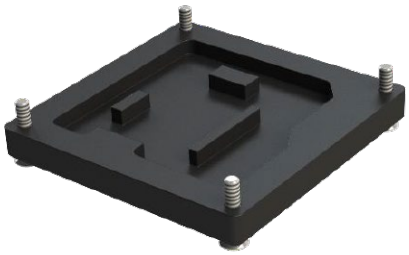
Small Chip size

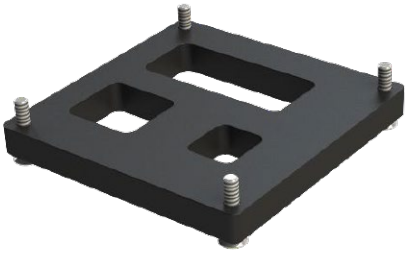
Medium Chip size

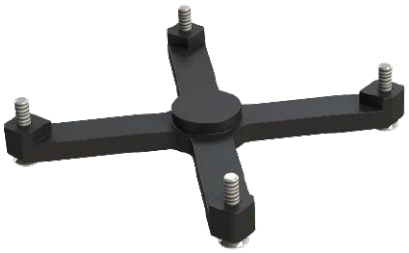


Large Chip size

Custom assembly boards







How to order

BE# ####-03E# - ######55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E2 : High Frequency 20.3 GHz
E3 : High Frequency 18.3 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

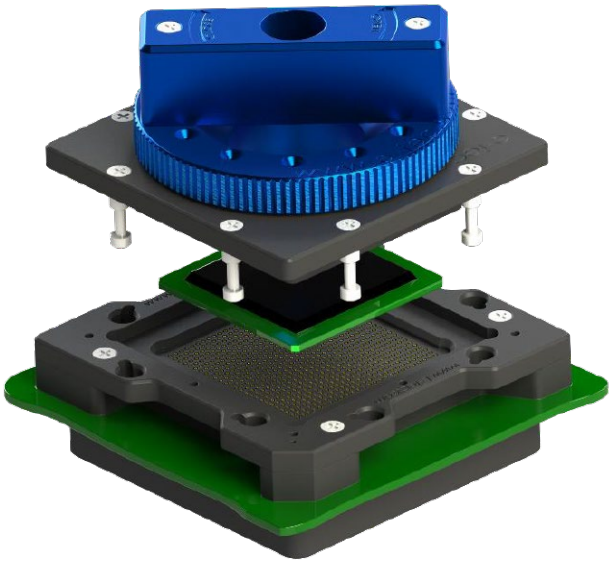
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

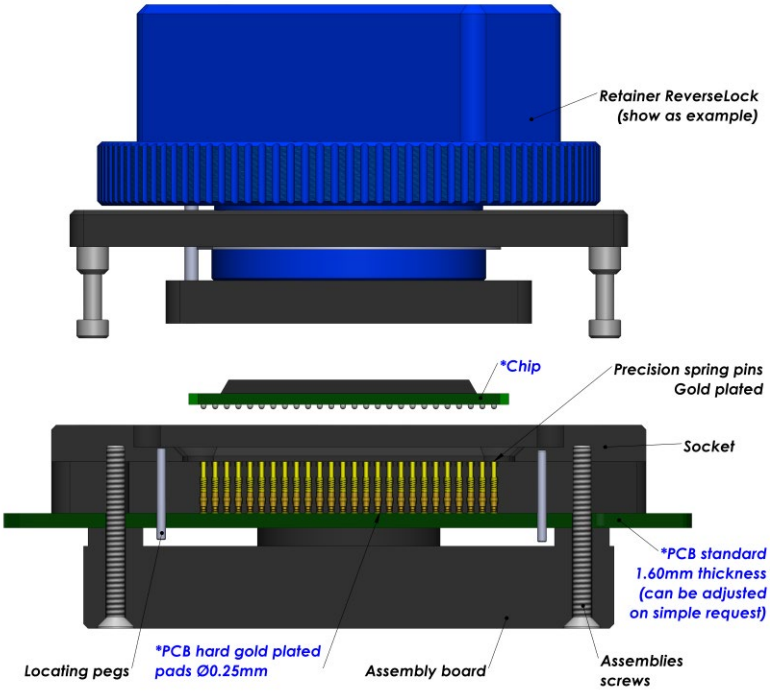
RoHS compliant

Probe Pin Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.40 mm pitch (from 0.40 mm to 0.49 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**0490**	**0491**	**0492**	**0494**
Application	Standard	Frequency	High Frequency	High Power
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	10 GHz	20 GHz	na
Contact resistance	<100 mOhm	100 mOhm	100 mOhm	100 mOhm
Chip contact tip shape	Single Point tip	Single Point tip	Single Point tip	Crown tip
PCB tip shape	Spring	Single Point tip	Single Point tip	Single Point tip
Force	20 gr	20 gr	20 gr	30 gr
Current rating	0.5 A	1.5 A	1.5 A	3 A
Capacitance pF	<1pF	0.90 pF	0.50 pF	na
Inductance nH	<2nH	1.50 nH	1.20 nH	na
Impedance Ohms	45 Ω	48 Ω	42 Ω	na
Temperature range	-55°C to +150°C	-40°C to +120°C	-40°C to +120°C	-40°C to +120°C
Mating cycles	100 K	300 K	100 K	100 K

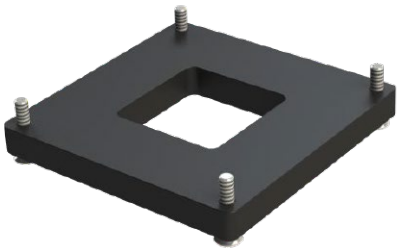
More on the next page

RoHS compliant

Standard assembly boards

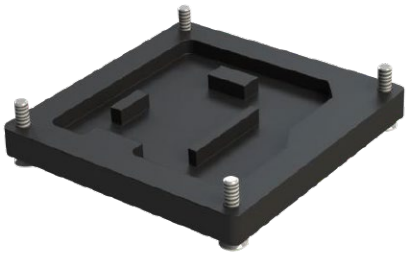
Small Chip size

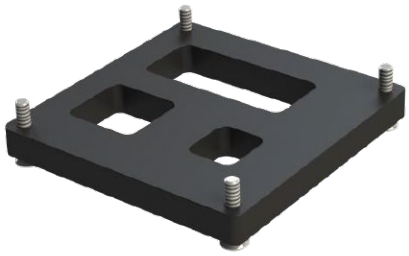
Medium Chip size



Large Chip size

Custom assembly boards





How to order

BU # # # # # -049 # - # # # # # # # 55L #

Shape of tip
U : Concave
Options:
P : Pointed
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 94 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

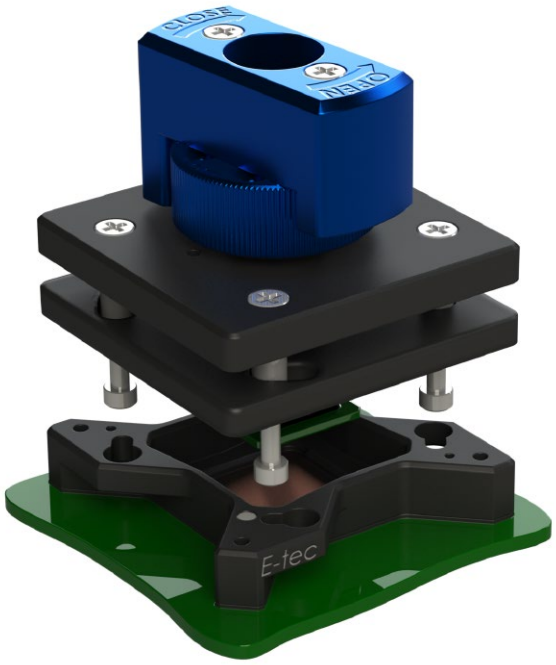
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

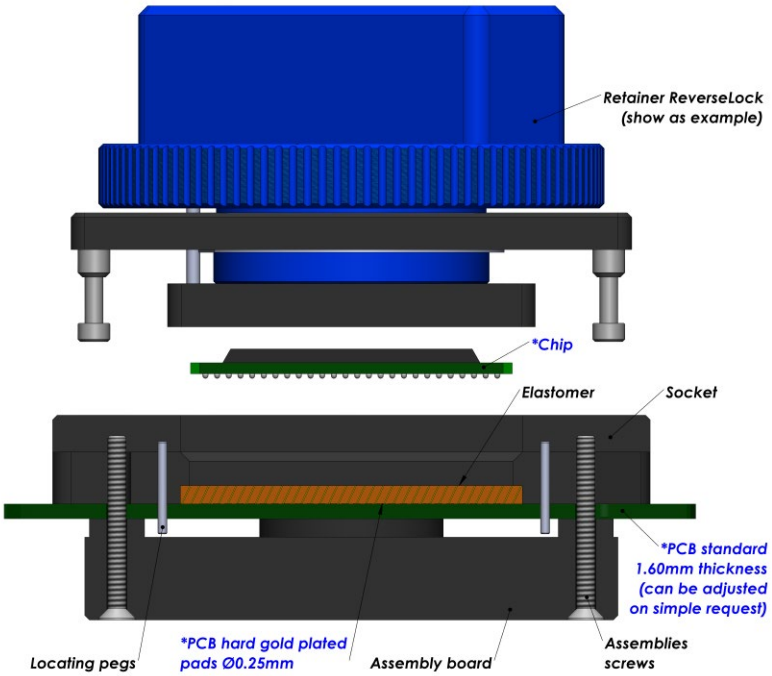
RoHS compliant

Elastomer Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.40 mm pitch (from 0.40 mm to 0.49 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	8.4 GHz	16.5 GHz	21.3 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	2.5 A		
Capacitance pF	0.28 pF	0.13 pF	0.10 pF
Inductance nH	0.26 nH	0.07 nH	0.06 nH
Impedance Ohms	34.7 Ω	38.9 Ω	42.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

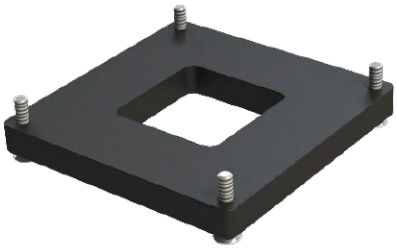
More on the next page

RoHS compliant

Standard assembly boards

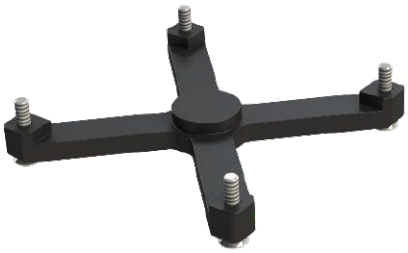
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

BE# ####-04E# - ######55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 8.4 GHz
E2 : High Frequency 16.5 GHz
E3: High Frequency 21.3 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

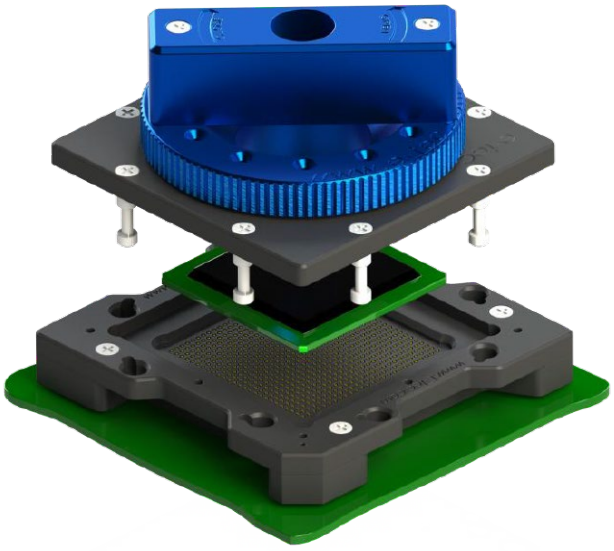
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

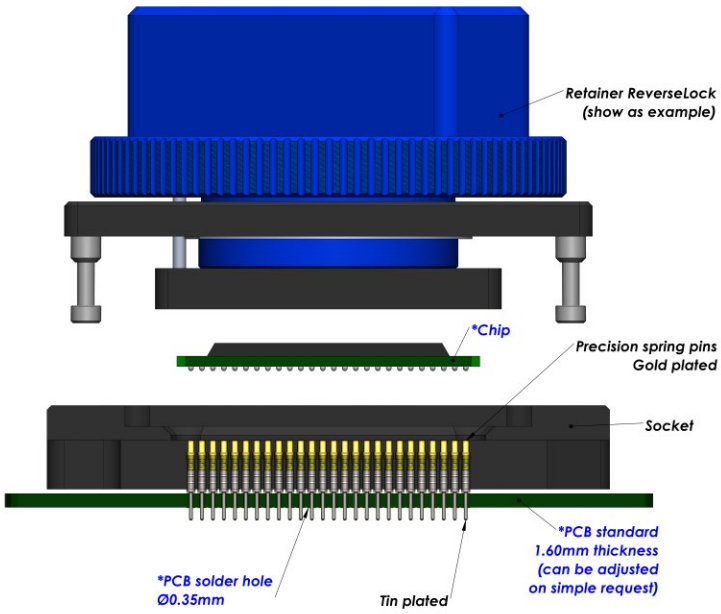
RoHS compliant

Through-hole (THT) soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0570			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

BU # ####-0570-######95 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type

70 : Standard THT

Plating

95: Tin / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

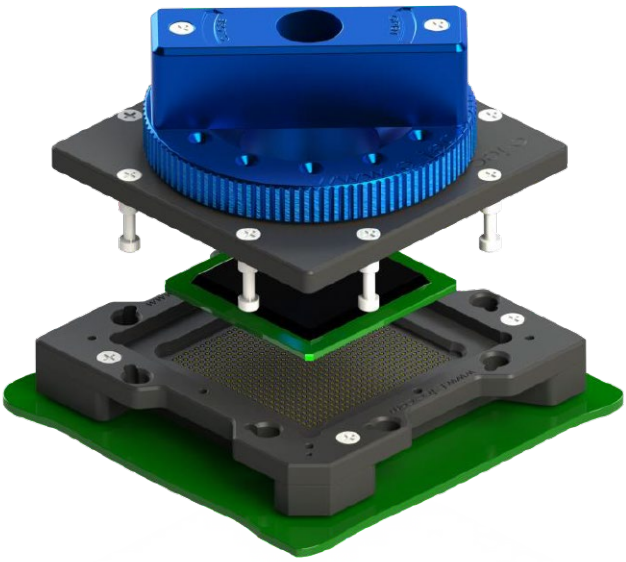
Will be given by the factory after receipt of the chip datasheet

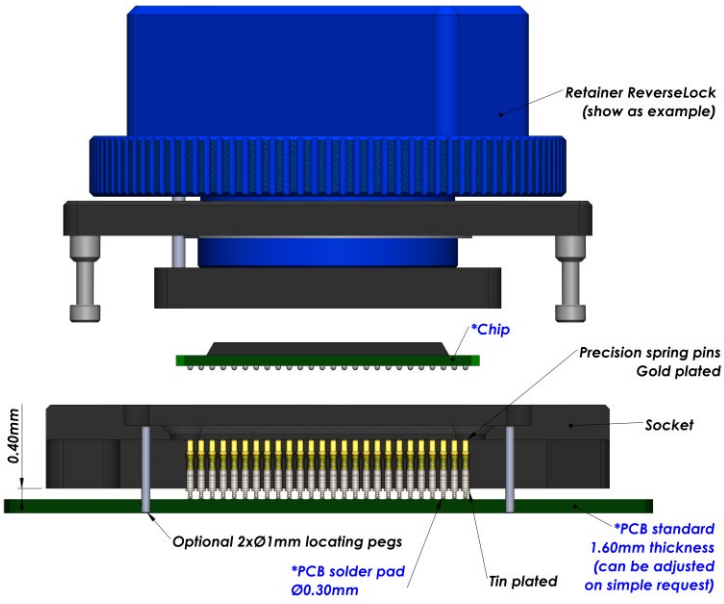
RoHS compliant

Standard SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0530			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

BU # #### -0530 - ###### 95 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type

30 : Standard SMT – dimension A = 0.40 mm

Plating

95 : Tin / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

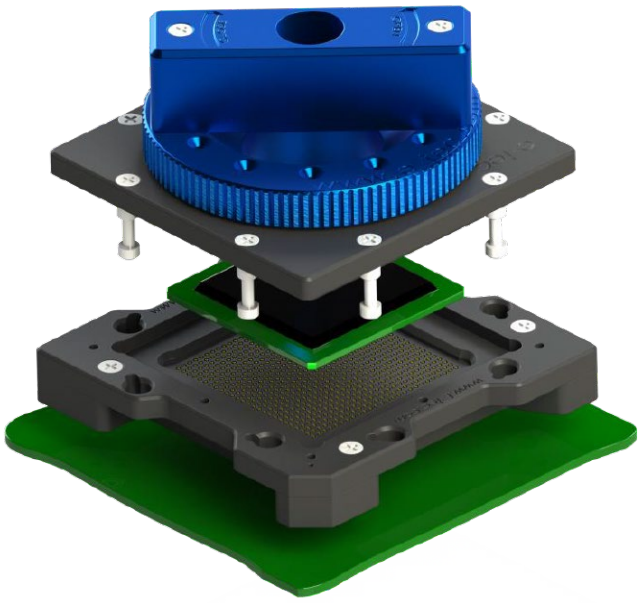
Will be given by the factory after receipt of the chip datasheet

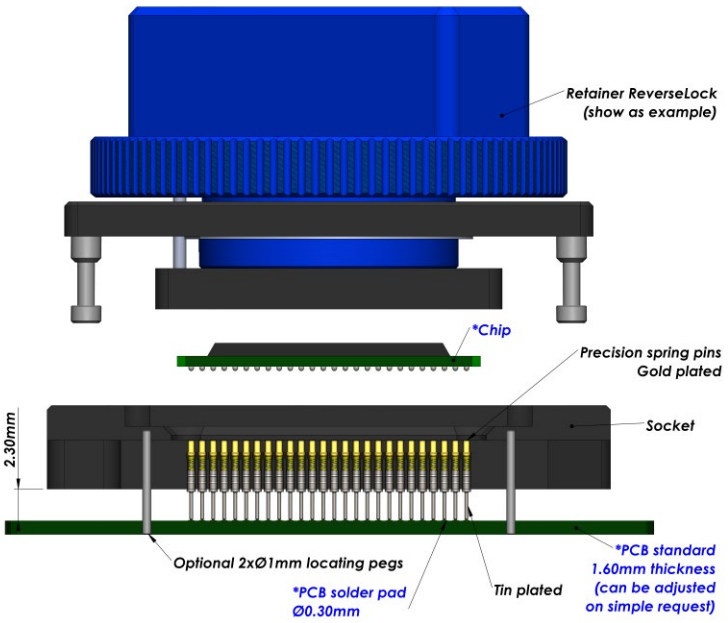
RoHS compliant

Raised SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0529			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100K

How to order

BU # ####-0529-######95A #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type

29 : Raised SMT – Dimension A = 2.30 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

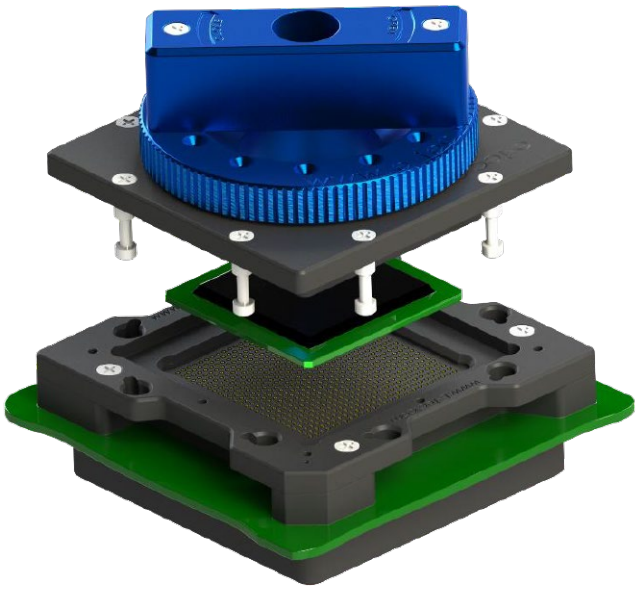
Will be given by the factory after receipt of the chip datasheet

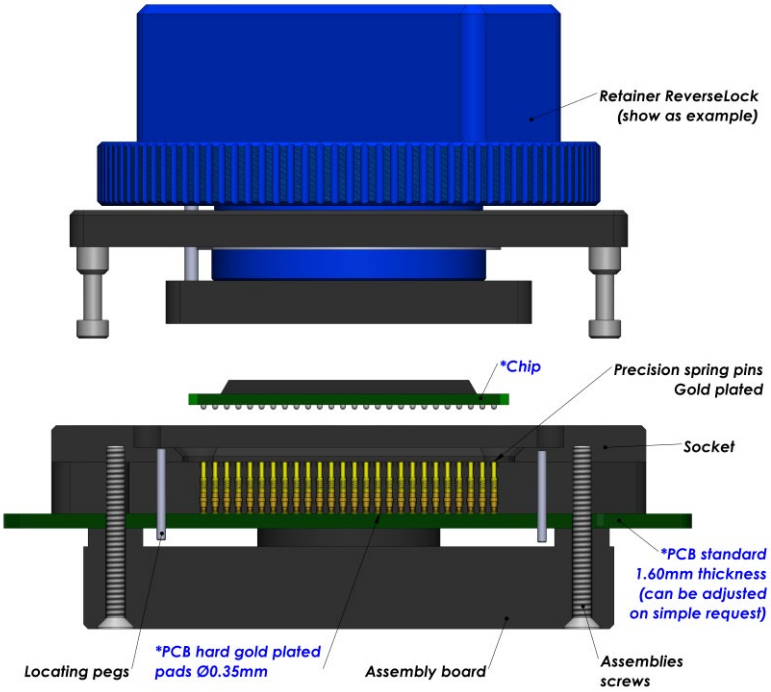
RoHS compliant

Probe Pin Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.50 mm pitch (from 0.50 mm to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0590**	**0591**	**0592**	**0593**	**0594**	**0598**
Application	Standard	Long live	High Frequency	High Temp & Long live	High Power	SuperHigh Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	7 GHz	29 GHz	8.9 GHz	9 GHz	40 GHz
Contact resistance	<100 mOhm	40 mOhm	100 mOhm	80 mOhm	80 mOhm	100 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Crown tip	Crown tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring
Force	30 gr	23 gr	20 gr	23 gr	30 gr	20 gr
Current rating	1.5 A	1 A	1.5 A	2 A	2 A	0.5 A
Capacitance pF	<1 pF	0.45 pF	0.48 pF	0.71 pF	na	0.36 pF
Inductance nH	<2 nH	1.08 nH	0.89 nH	0.67 nH	na	1.19 nH
Impedance Ohms	38 Ω	39 Ω	38 Ω	55 Ω	60 Ω	62 Ω
Temperature range	-55°C to +150°C	-50°C to +150°C	-40°C to +120°C	-50°C to +220°C	-50°C to +220°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	500 K	500 K	100 K

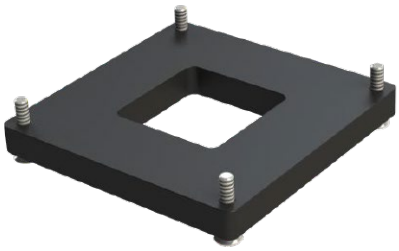
More on the next page

RoHS compliant

Standard assembly boards

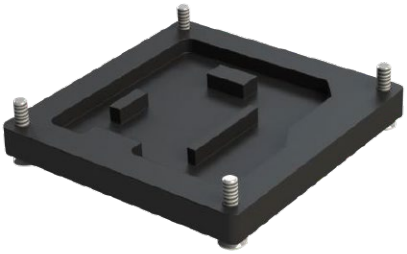
Small Chip size

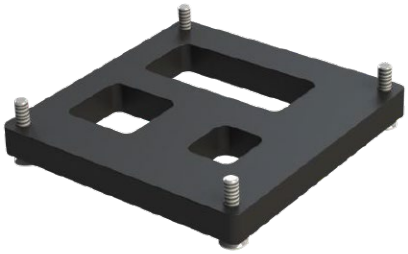
Medium Chip size



Large Chip size

Custom assembly boards





How to order

BU # # # # # -059 # - # # # # # # # 55L #

Shape of tip
U : Concave
Options:
P : Pointed
S : Spring
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M : Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

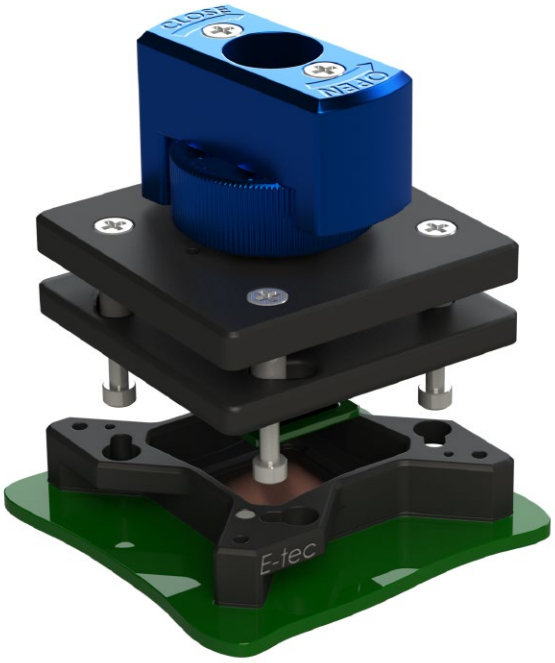
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

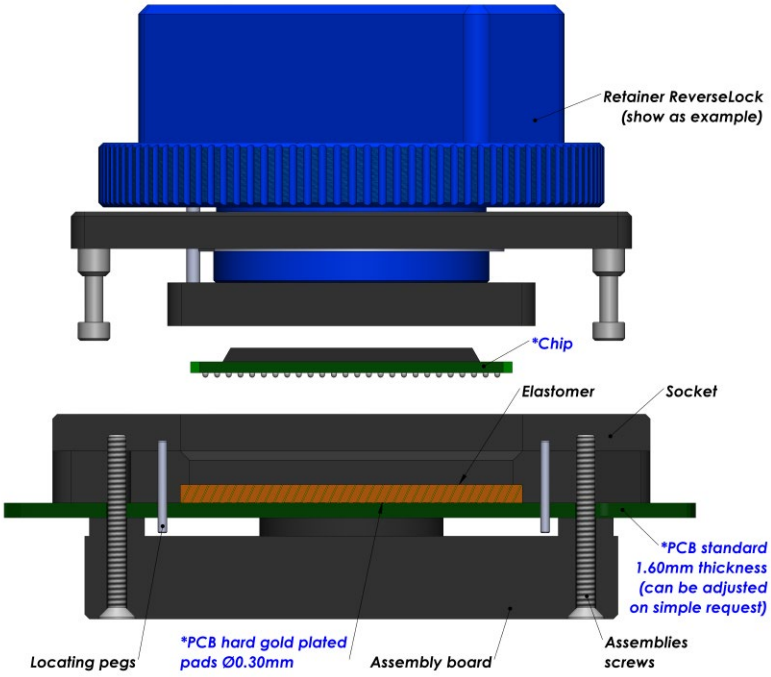
RoHS compliant

Elastomer Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package e

0.50 mm pitch (from 0.50mm to 0.79mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	17 GHz	34 GHz	>40 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	2.5 A		
Capacitance pF	0.14 pF	0.10 pF	0.06 pF
Inductance nH	0.23 nH	0.30 nH	0.03 nH
Impedance Ohms	41.3 Ω	47.1 Ω	51.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

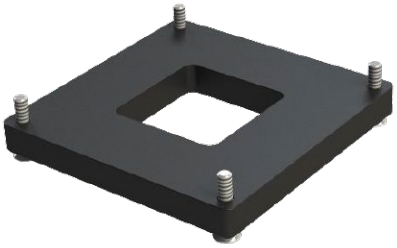
More on the next page

RoHS compliant

Standard assembly boards

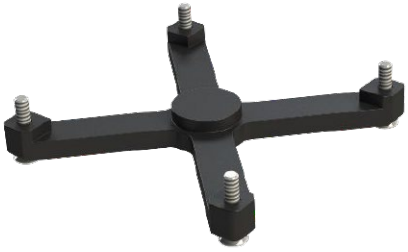
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

BE# ####-05E# - ###### 55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 17 GHz
E2 : High Frequency 34 GHz
E3 : High Frequency 40 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

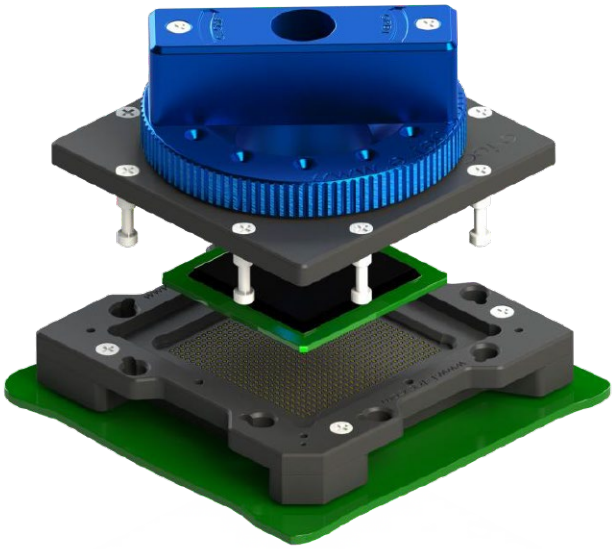
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

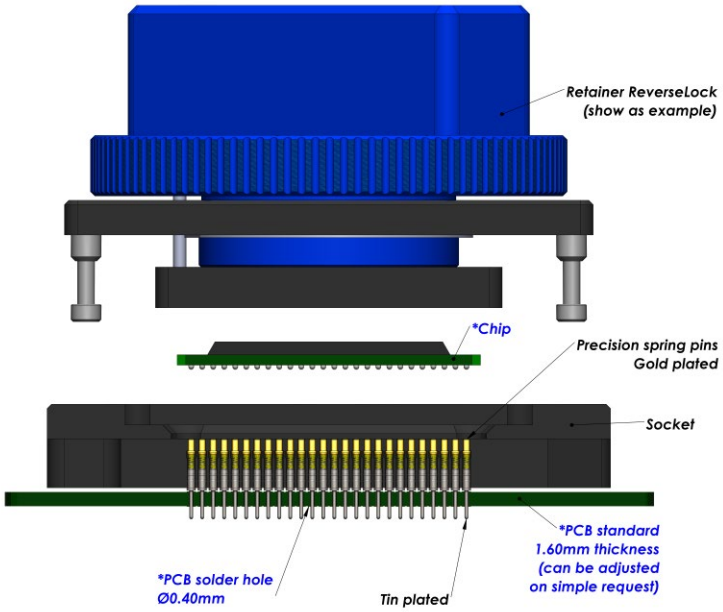
RoHS compliant

Through-hole (THT) soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0870			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

BU # ####-087# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

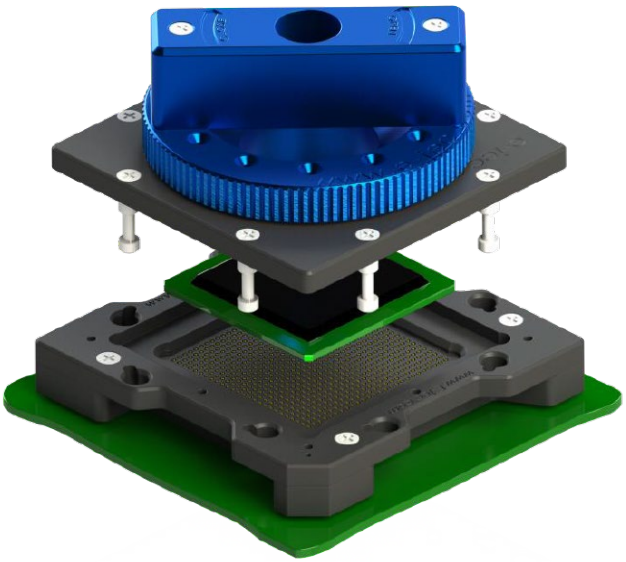
Will be given by the factory after receipt of the chip datasheet

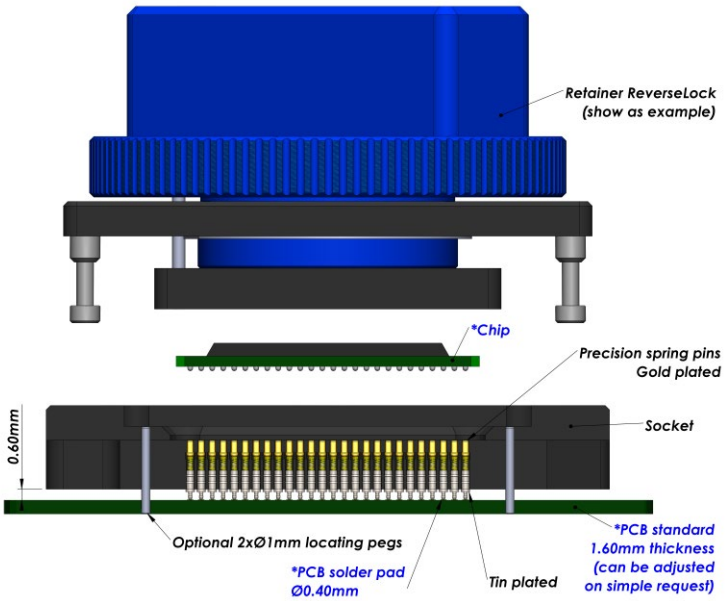
RoHS compliant

Standard SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0830			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.6(4.4) GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100K

How to order

BU # ####-0830 - ######95 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type

30 : Standard SMT – Dimension A = 0.60 mm

Plating

95 : Tin / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

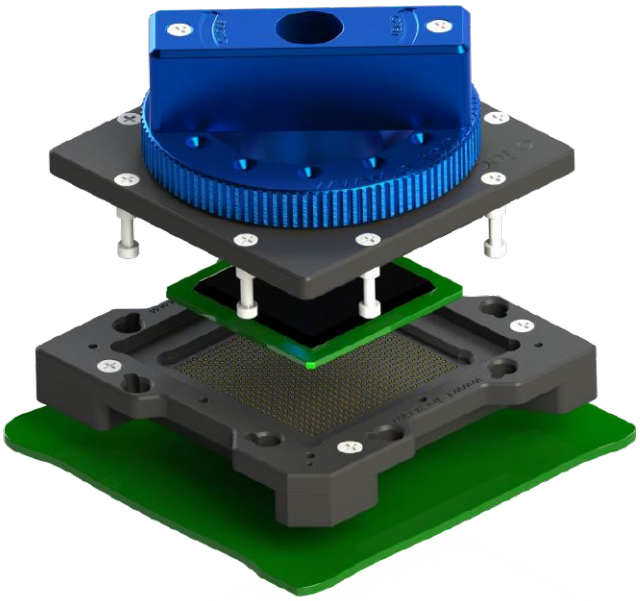
Will be given by the factory after receipt of the chip datasheet

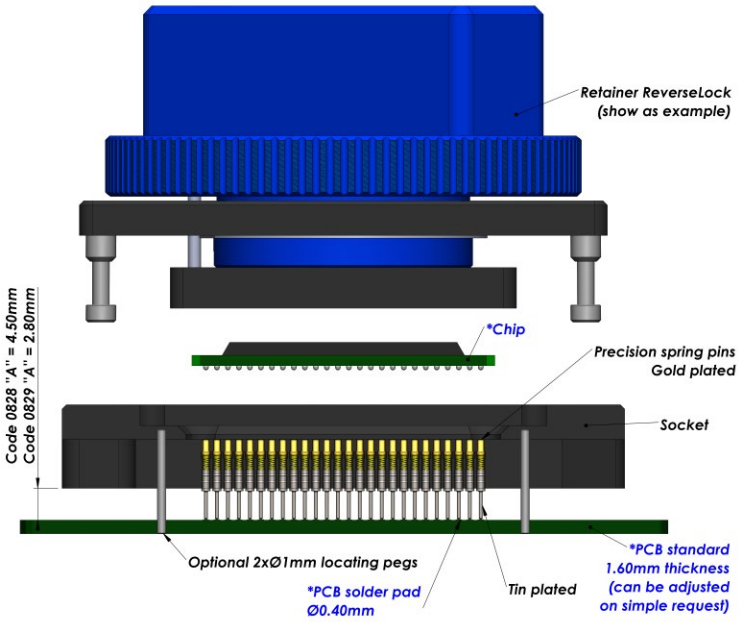
RoHS compliant

Raised SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0829 & 0828			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
DUT Contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

BU # ####-082# - ######95A#

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type
- **29 :** Raised SMT – Dimension A = 2.80 mm
- **28 :** Special Raised SMT - Dim. A = 4.50 mm

Plating
- **95A:** Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

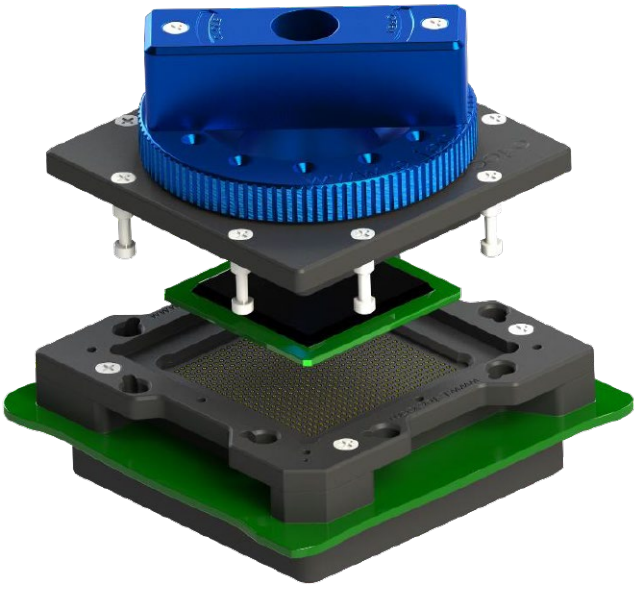
Will be given by the factory after receipt of the chip datasheet

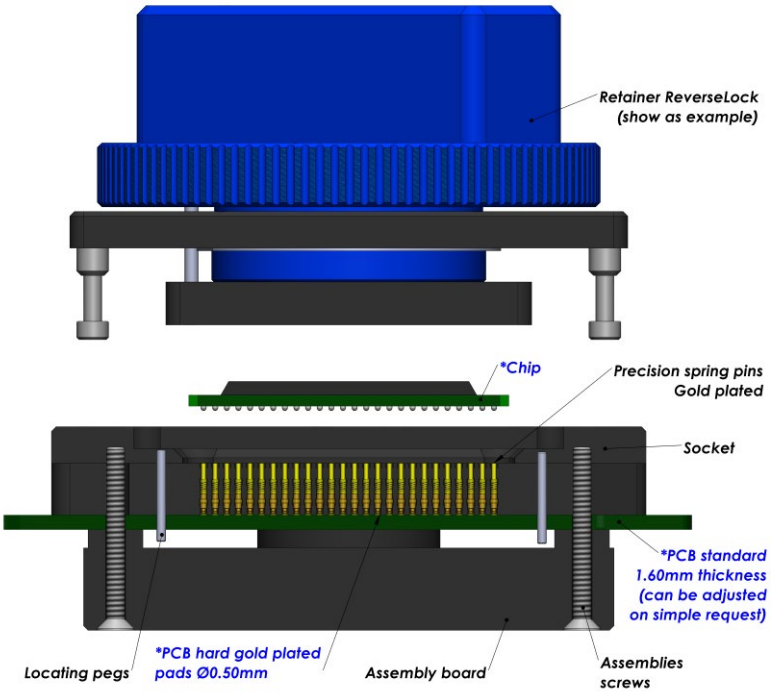
RoHS compliant

Probe Pin Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.80 mm pitch (from 0.80 mm to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

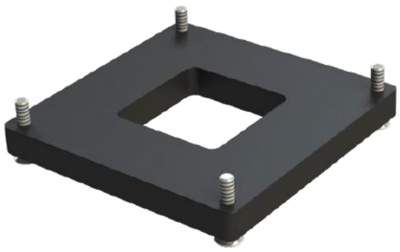
Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0890**	**0891**	**0893**	**0892**	**0894**	**0898**
Application	Standard	High Frequency	Low Contact Resistance	High Frequency	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3.4 GHz	36 GHz	7 GHz	31 GHz	14 GHz	31.7 GHz
Contact resistance	<100 mOhm	100 mOhm	40 mOhm	90 mOhm	90 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Single Point tip	Crown tip	Single Point tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Spring	Spring	Spring
Force	30 gr	33 gr	23 gr	20 gr	20 gr	25 gr
Current rating	1.8 A	1 A	1 A	0.5 A	0.5 A	2.6 A
Capacitance pF	<1 pF	0.47 pF	0.55 pF	0.37 pF	0.30 pF	0.60 pF
Inductance nH	<2 nH	0.93 nH	1.08 nH	1.67 nH	1.66 nH	1.38 nH
Impedance Ohms	40 Ω	38 Ω	39 Ω	73 Ω	78 Ω	44.8 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +150°C	-55°C to +150°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	100 K	100 K	100 K	100 K	100 K

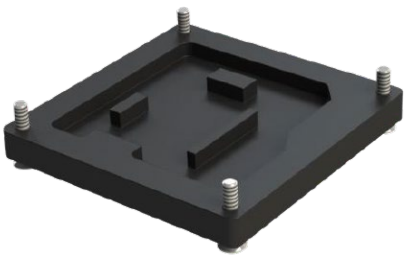
More on the next page

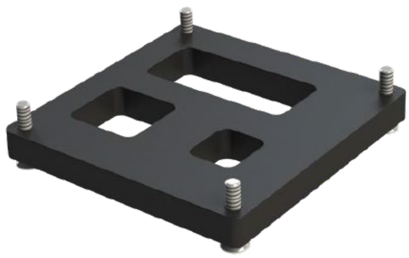
RoHS compliant

Standard assembly boards

Small Chip size	Medium Chip size	Large Chip size
		

Custom assembly boards





How to order

BU # #### -089 # - ####### 55L #

Shape of tip
- U : Concave

Options:
- P : Pointed
- S : Spring
- C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
- **91 to 98 :** See "Contacts specification" chart
- **90 :** Standard solderless compression style
- **9M :** Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W :** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

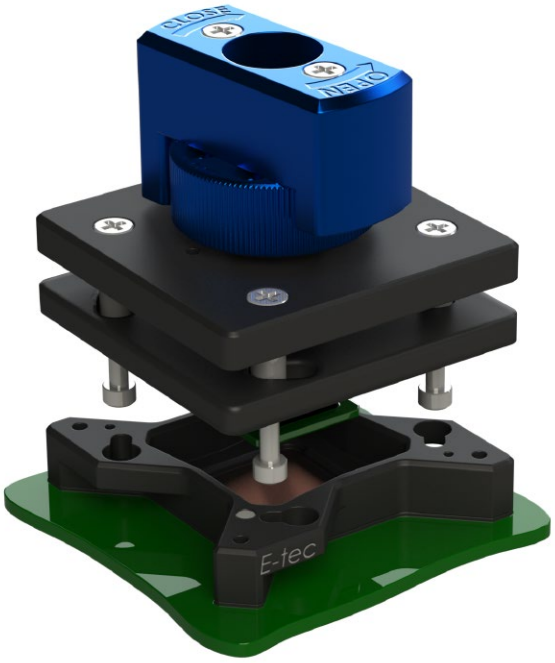
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

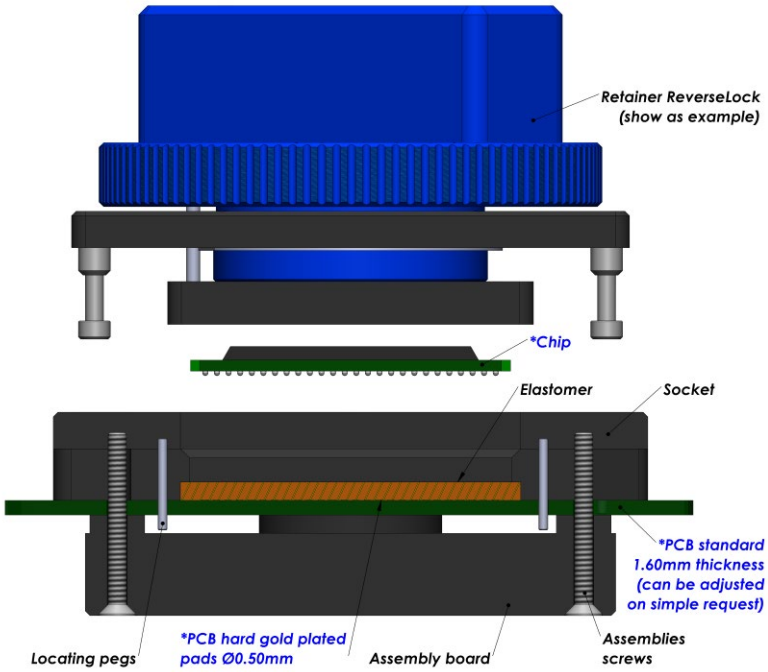
RoHS compliant

Elastomer Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

0.80 mm pitch (from 0.80 mm to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications		
Contact type code	**E1**	**E2**
Application	High Frequency	
Mounting	Solderless	Solderless
Bandwidth (GHz@-1dB)	23 GHz	24 GHz
Contact resistance	30 mOhm	
Chip contact tip shape	Gold Wire	
PCB tip shape	Gold Wire	
Force	20 gr to 50 gr	
Current rating	3 A	
Capacitance pF	0.26 pF	0.16 pF
Inductance nH	0.52 nH	0.26 nH
Impedance Ohms	44.8 Ω	44.4 Ω
Temperature range	-40°C to +125°C	
Mating cycles	1 K	

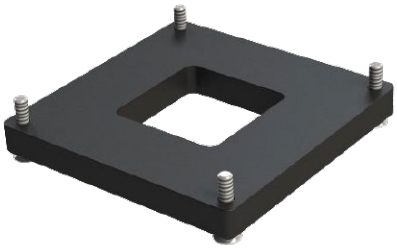
More on the next page

RoHS compliant

Standard assembly boards

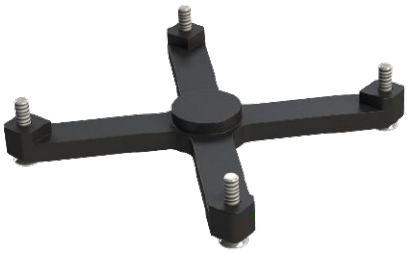
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

BE# ####-08E# - ###### 55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 23 GHz
E2 : High Frequency 24 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

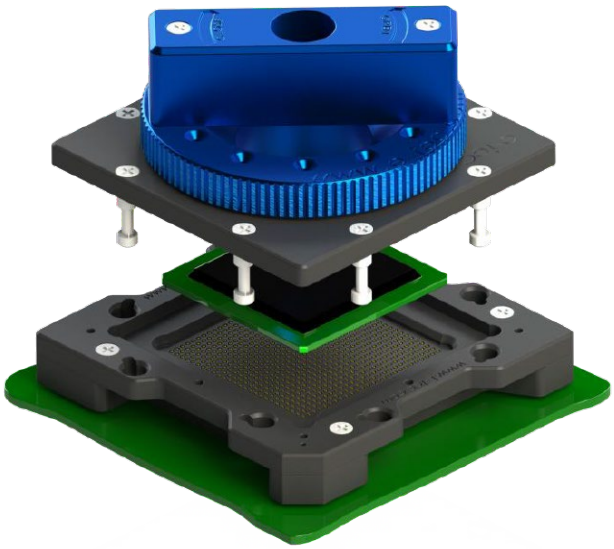
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

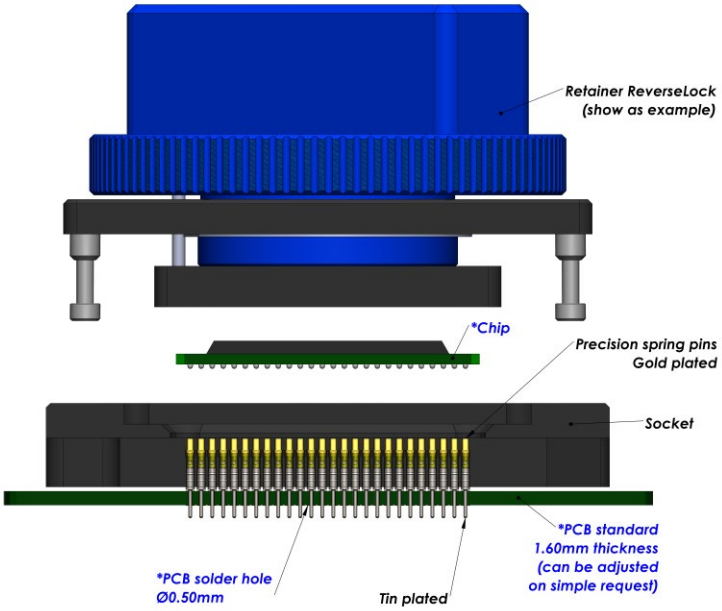
RoHS compliant

Through-hole (THT) soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1070			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	1.03 pF
Contact resistance	<100mOhm	**Inductance nH**	1.80 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

BU # ####-107# - ###### #5 #

Shape of tip

U : Concave

Options:

P : Pointed

S : Spring

C : Crown

Nbr of contacts

Depends on ballcount of chip

Contact type

70 : Standard THT

72 : Special THT to plug into MGS adapters

Plating

95: Tin / Gold

55: Gold / Gold

Other on request

Option code (see page 16-19)

D : Dead bug

M : Multi frames

U : Multi packages

S : Custom opening slot

L : Locating pegs

A : Alignment plate

H : Heatsink

F : Fan + Heatsink

P : Thermal drain pad

W : Transparent lid

I : Steel retention lid

B : Aluminium retention lid

T : Torque tool fixture

G : Handling button

Retention frame type (Lid) (see page 12-15)

W: TwistLock

F : FastLock

B : SpringLock

H : Open Clamshell Alu (<200 contacts)

J : Clamshell Alu (>200 contacts)

L : Open Lever Clamshell Alu (>200 contacts)

S : ScrewLock

Q : Open QuickLock (<200 contacts)

D : QuickLock (>200 contacts)

M : Injection Molded ClamShell

R : ReverseLock

T : SlimLock

Grid code / Config. code

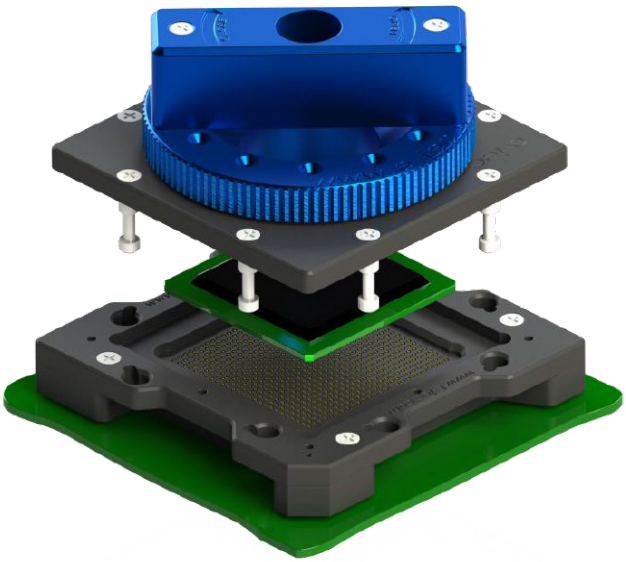
Will be given by the factory after receipt of the chip datasheet

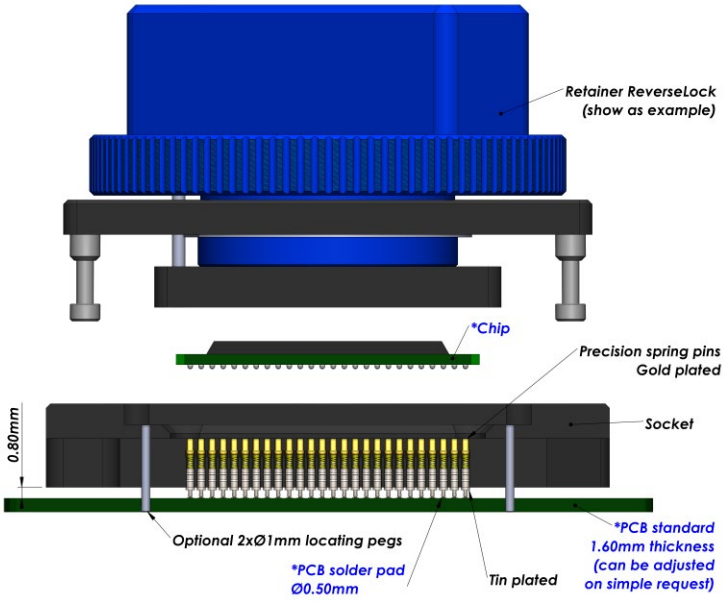
RoHS compliant

Standard SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1030			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.8(6.6) GHz	**Capacitance pF**	0.62 pF
Contact resistance	<100mOhm	**Inductance nH**	1.97 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

BU # ####-1030-######95 #

Shape of tip
U : Concave
Options:
P : Pointed
S : Spring
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.80 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

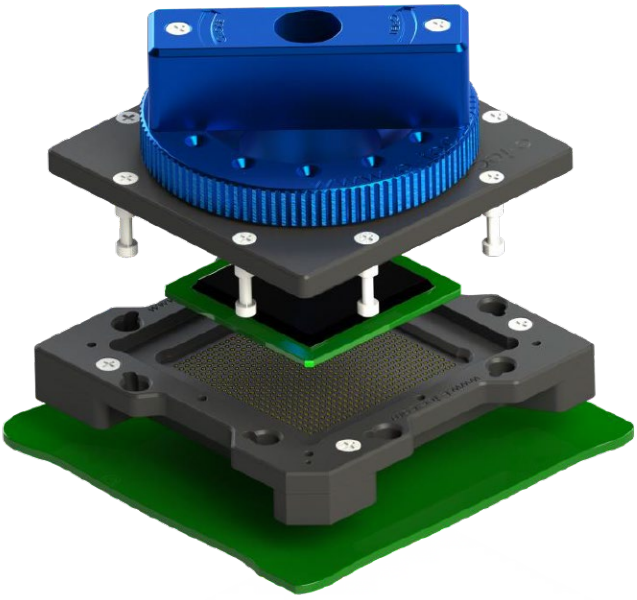
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

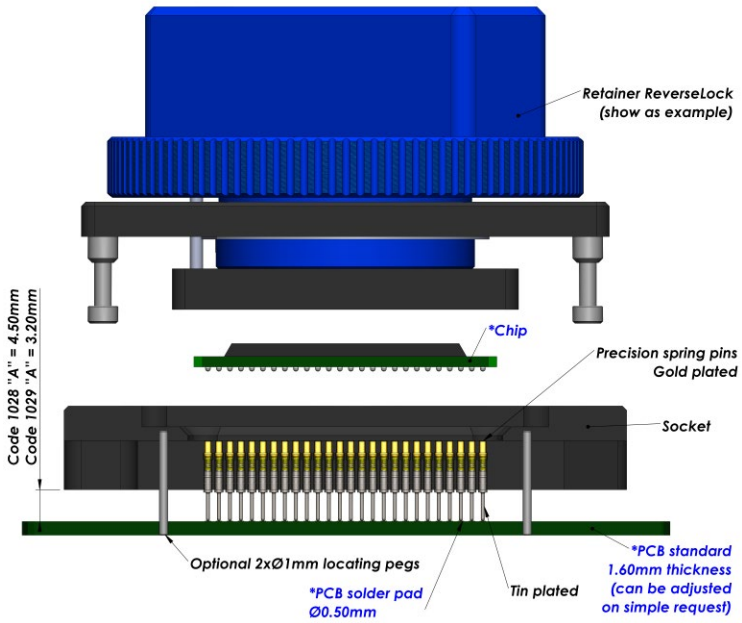
RoHS compliant

Raised SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1029 & 1028			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

BU # ####-102# - ######95A#

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type
- **29 :** Raised SMT – Dimension A = 3.20 mm
- **28 :** Special Raised SMT - Dim. A = 4.50 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

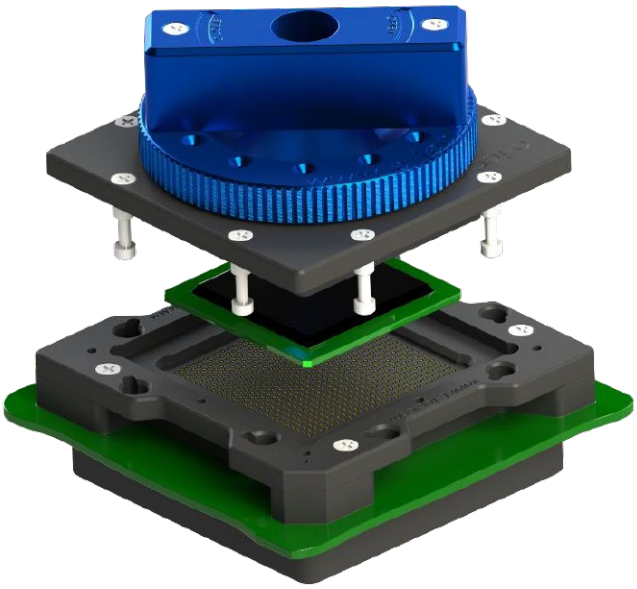
Will be given by the factory after receipt of the chip datasheet

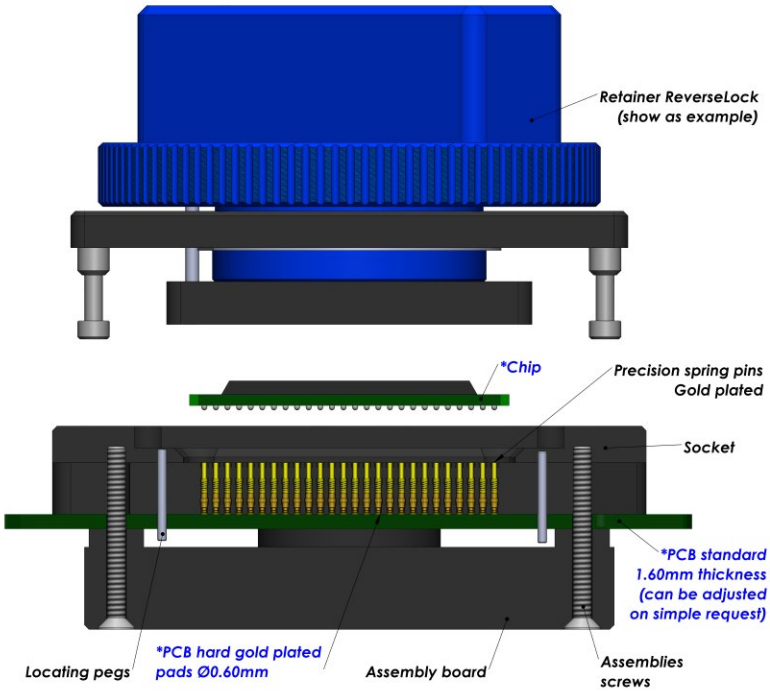
RoHS compliant

Probe Pin Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.00 mm pitch (from 1.00 mm to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

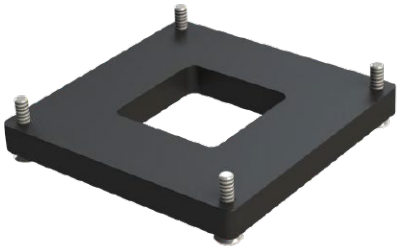
Contacts Specifications						
Contact type code	**1090**	**1091**	**1092**	**1093**	**1094**	**1098**
Application	Standard	Long Live	High Frequency	High Power	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	11 GHz	31 GHz	10 GHz	9.4 GHz	30.3 GHz
Contact resistance	<100 mOhm	45 mOhm	100 mOhm	30 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Round tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	33 gr	30 gr	25 gr	25 gr
Current rating	1.8 A	3 A	1 A	4 A	5 A	2.6 A
Capacitance pF	<1 pF	0.55 pF	0.39 pF	0.19 pF	0.85 pF	0.54 pF
Inductance nH	<2 nH	0.76 nH	1.01 nH	0.93 nH	1.36 nH	1.70 nH
Impedance Ohms	45 Ω	36 Ω	46 Ω	38 Ω	35 Ω	59.9 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +120°C	-55°C to +180°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	125 K	100 K	100 K

More on the next page

Standard assembly boards

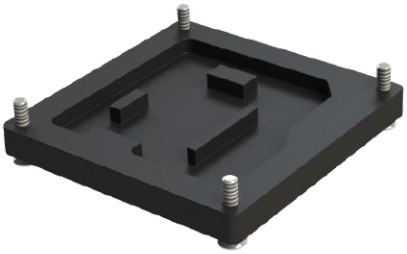
Small Chip size

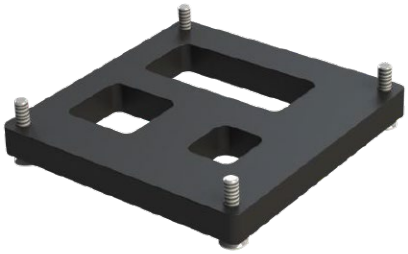
Medium Chip size



Large Chip size

Custom assembly boards





How to order

BU # ####-109#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed
S : Spring
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

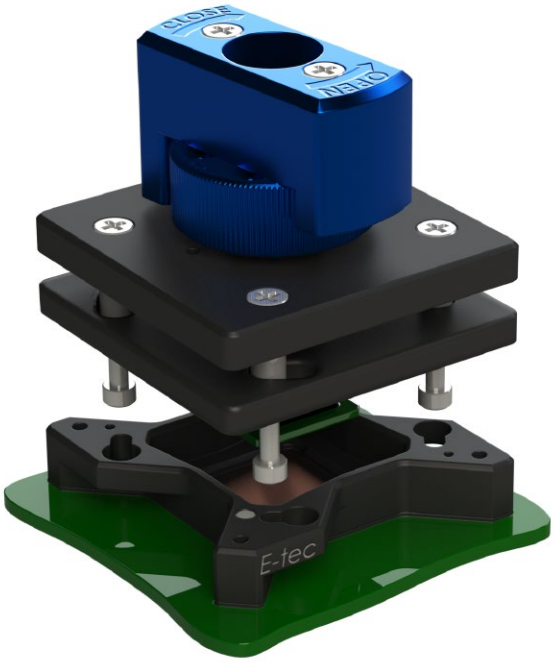
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

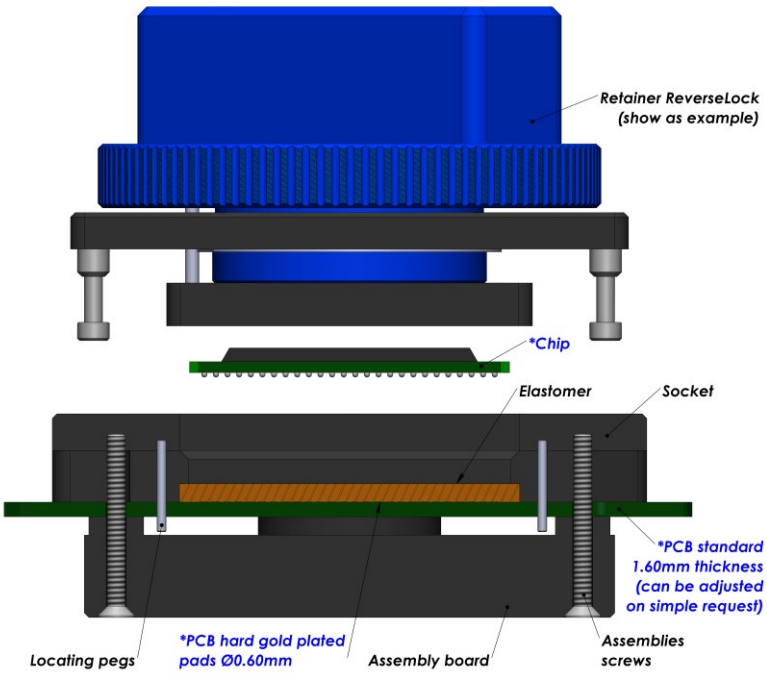
RoHS compliant

Elastomer Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.00 mm pitch (from 1.00 mm to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	20 GHz	38 GHz	30 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	3 A		
Capacitance pF	0.26 pF	0.12 pF	0.10 pF
Inductance nH	0.52 nH	0.35 nH	0.18 nH
Impedance Ohms	44.8 Ω	44.4 Ω	42.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

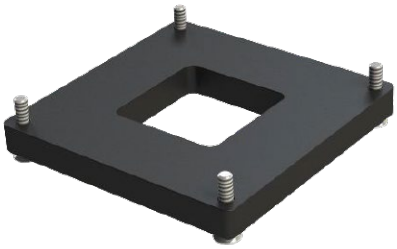
More on the next page

RoHS compliant

Standard assembly boards

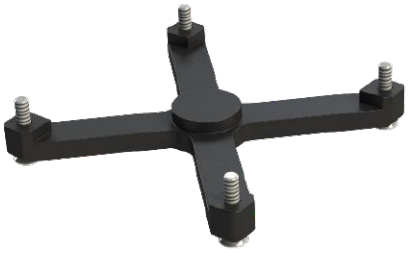
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

BE# ####-10E# -######55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 20 GHz
E2 : High Frequency 38 GHz
E3 : High Frequency 30 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

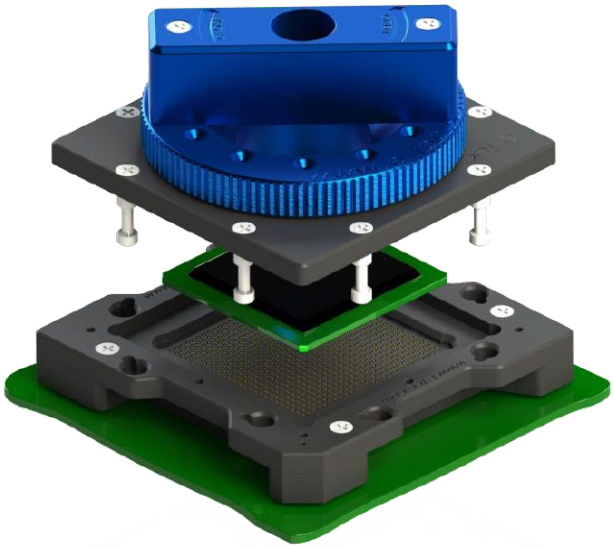
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

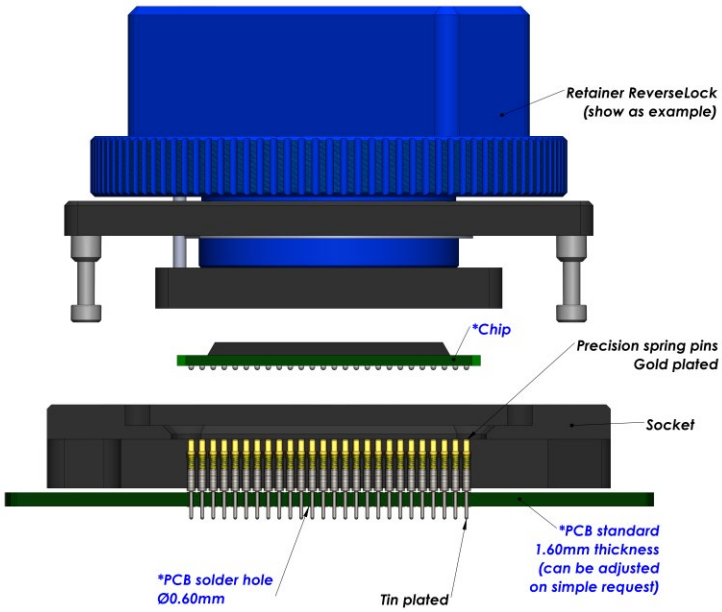
RoHS compliant

Through-hole (THT) soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1270			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

BU # ####-127# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

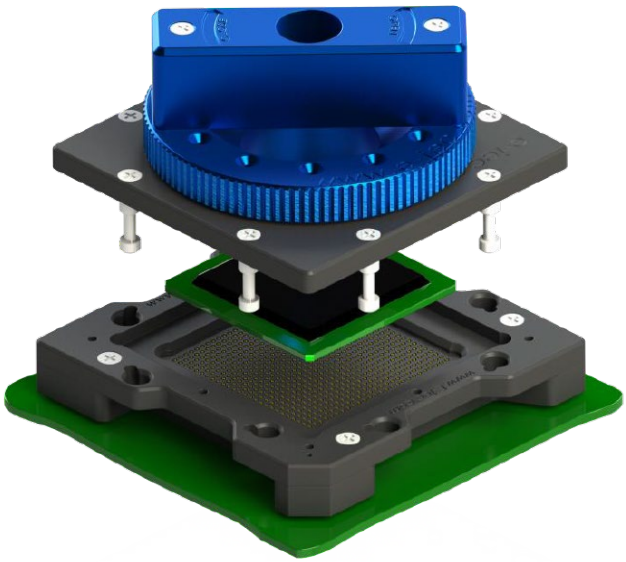
Will be given by the factory after receipt of the chip datasheet

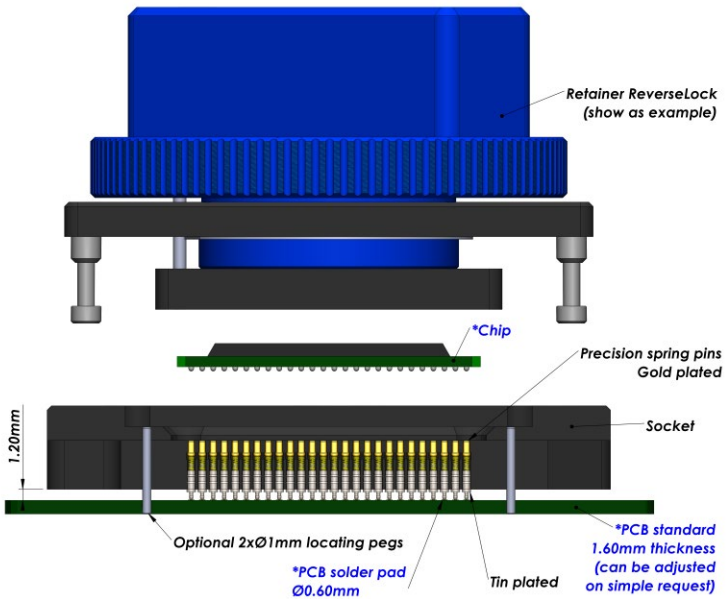
RoHS compliant

Standard SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1230			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100K

How to order

BU # ####-1230-######95 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 1.20 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

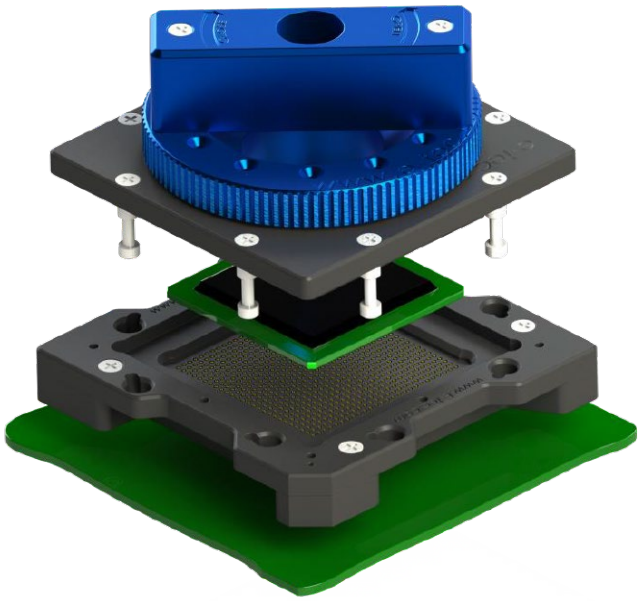
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

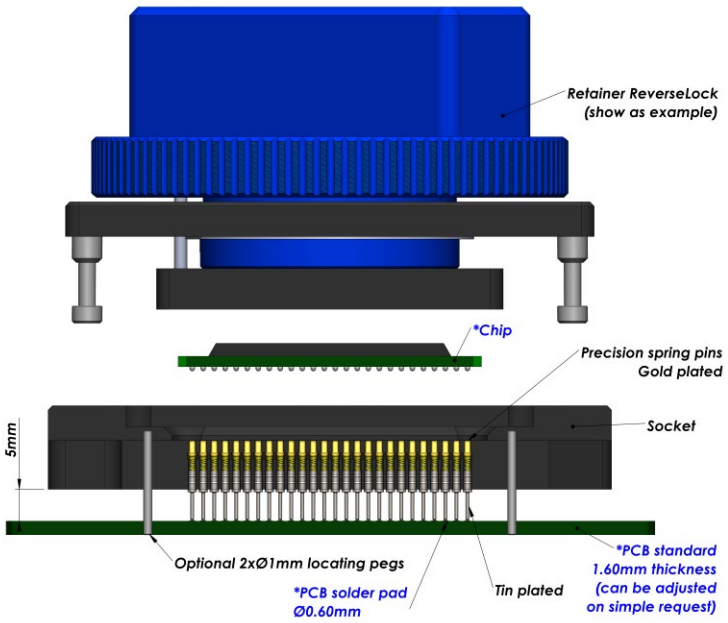
RoHS compliant

Raised SMT soldering Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1229			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

BU # ####-1229-######95A #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed
- **S :** Spring
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type

29 : Raised SMT – Dimension A = 5.00 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

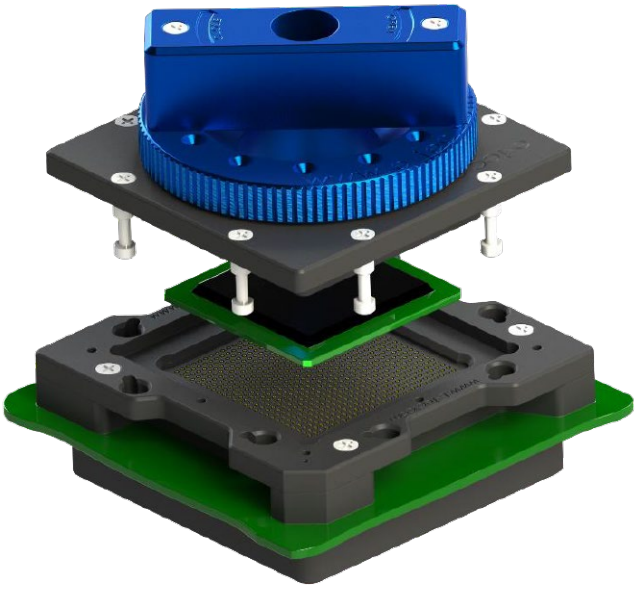
Will be given by the factory after receipt of the chip datasheet

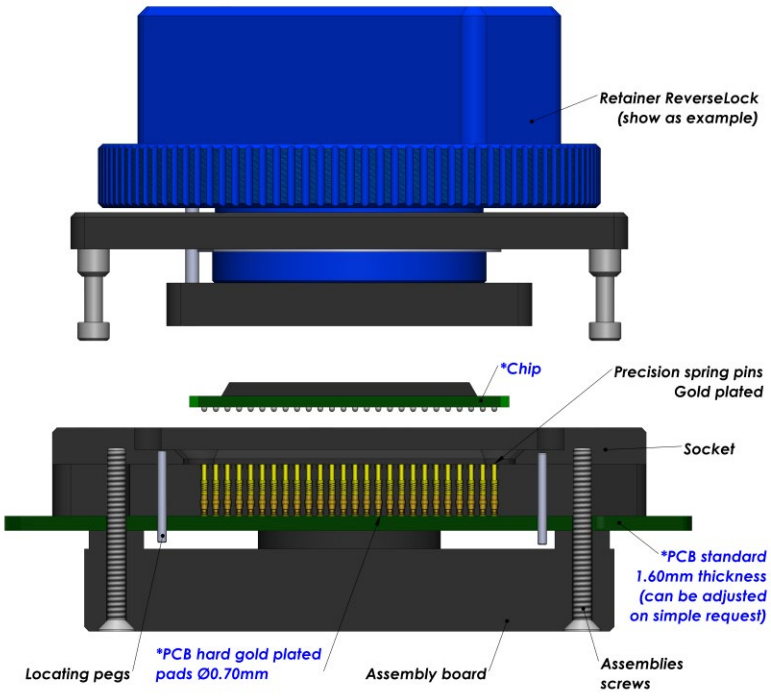
RoHS compliant

Probe Pin Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**1290**	**1291**	**1294**	**1298**
Application	Standard	High Frequency + Long Live	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	37.5 GHz	13.3 GHz	23.7 GHz
Contact resistance	<100 mOhm	45 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	25 gr	25 gr
Current rating	2.2 A	3 A	5 A	2.6 A
Capacitance pF	<1 pF	0.43 pF	0.76 pF	0.50 pF
Inductance nH	<2 nH	0.82 nH	1.73 nH	2.03 nH
Impedance Ohms	48 Ω	41 Ω	42.8 Ω	67.5 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	100 K

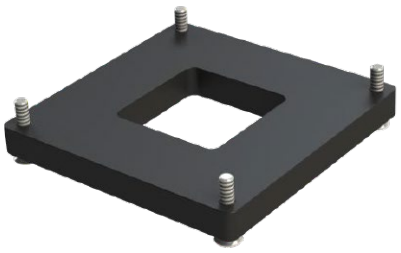
More on the next page

RoHS compliant

Standard assembly boards

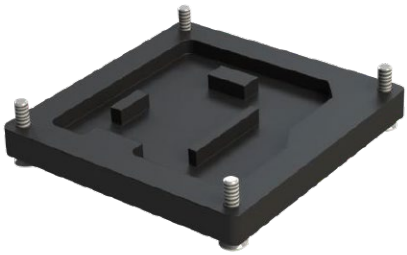
Small Chip size

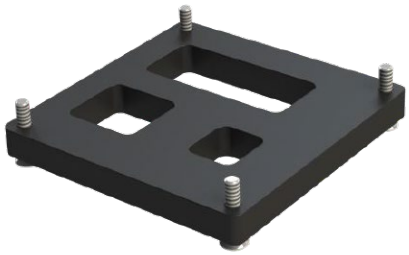
Medium Chip size



Large Chip size

Custom assembly boards





How to order

BU # ####-129#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed
S : Spring
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

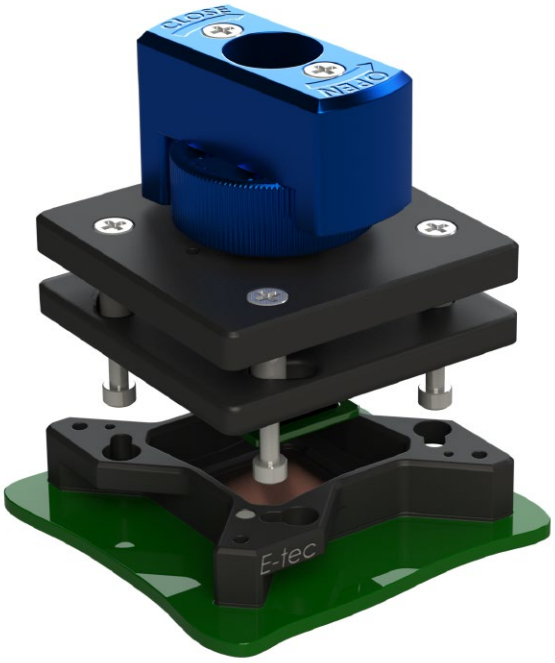
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

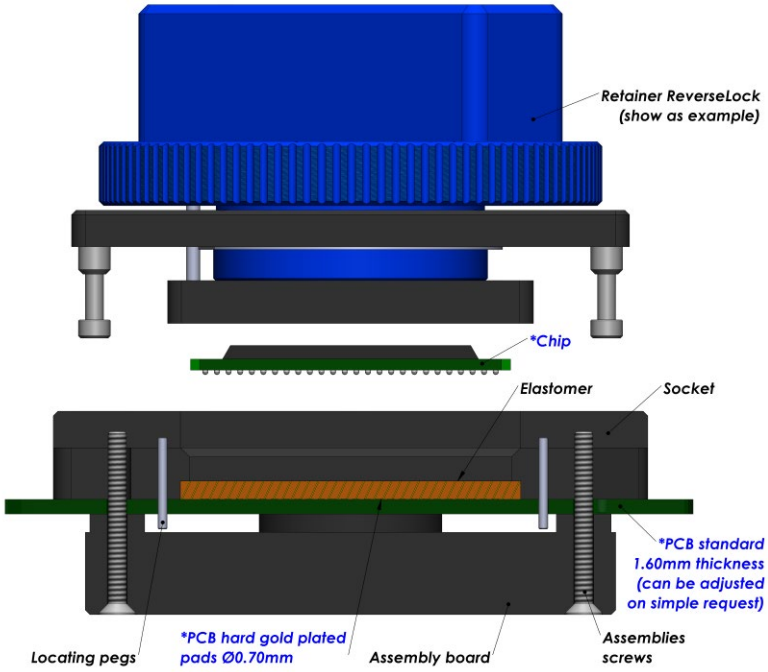
RoHS compliant

Elastomer Solderless Compression Test Socket

For BGA / Bumped chip / WLCSP / eMMC Package

1.27 mm pitch (from 1.00 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	20 GHz	38 GHz	30 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	3 A		
Capacitance pF	0.26 pF	0.12 pF	0.10 pF
Inductance nH	0.52 nH	0.35 nH	0.18 nH
Impedance Ohms	44.8 Ω	44.4 Ω	42.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

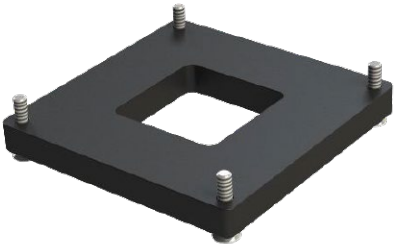
More on the next page

RoHS compliant

Standard assembly boards

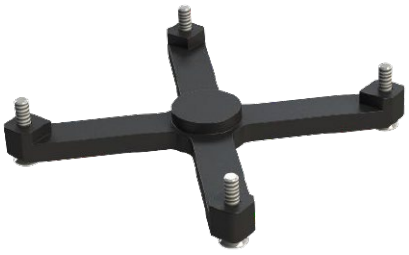
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

BE# ####-12E# - ###### 55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 20 GHz
E2 : High Frequency 38 GHz
E3 : High Frequency 30 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

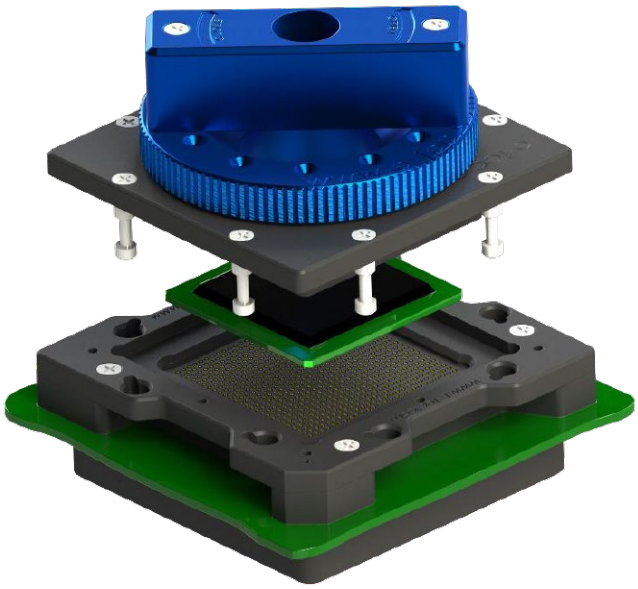
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

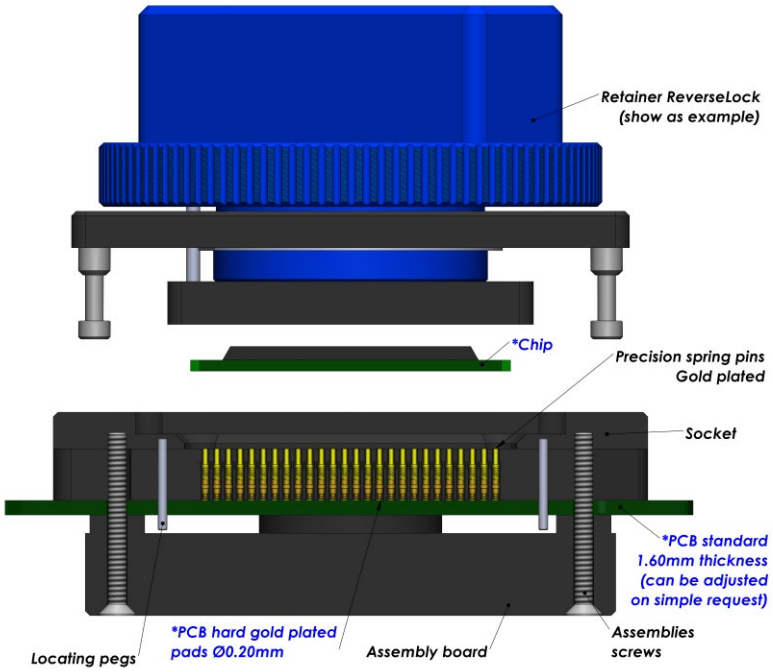
RoHS compliant

Probe Pin Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.30 mm pitch (from 0.30 mm to 0.39 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications	
Contact type code	**0398**
Application	High Frequency
Mounting	Solderless
Bandwidth (GHz@-1dB)	19 GHz
Contact resistance	<100 mOhm
Chip contact tip shape	Single Point tip
PCB tip shape	Single Point tip
Force	17 gr
Current rating	0.8 A
Capacitance pF	0.50 pF
Inductance nH	1.27 nH
Impedance Ohms	45 Ω
Temperature range	-45°C to +125°C
Mating cycles	150 K

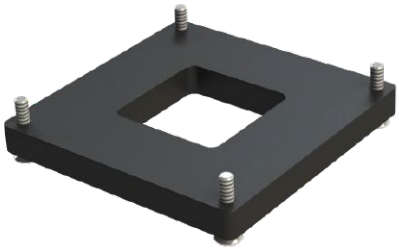
More on the next page

RoHS compliant

Standard assembly boards

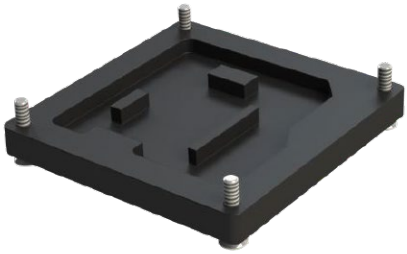
Small Chip size

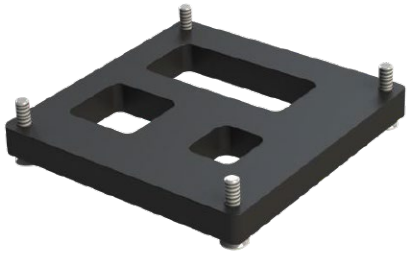
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LP # ####-0398 -######55L #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
98 : See “Contacts specification” chart

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

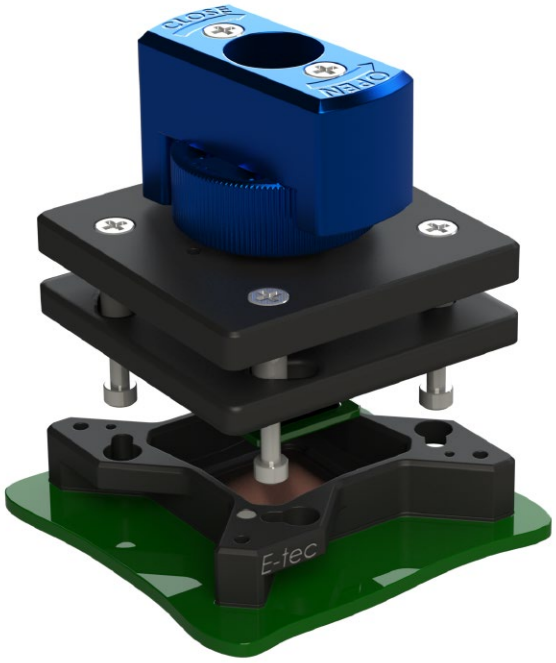
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

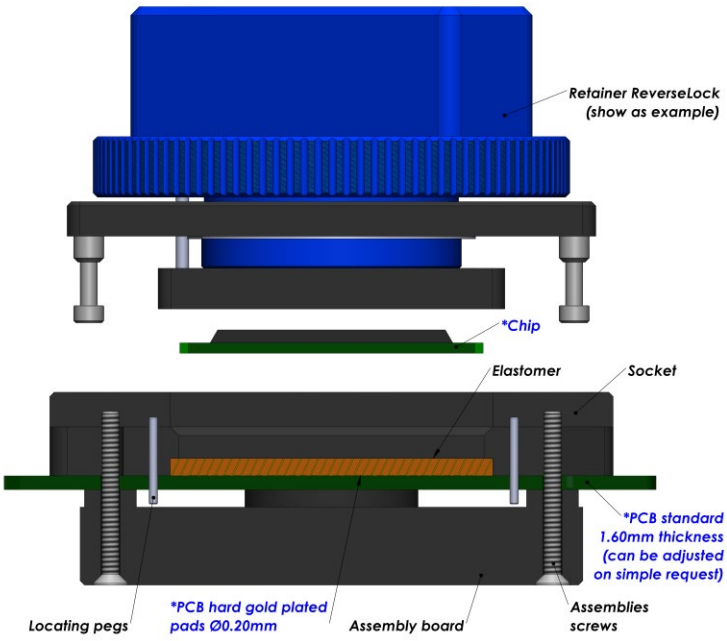
RoHS compliant

Elastomer Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.30 mm pitch (from 0.30 mm to 0.39 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications		
Contact type code	**E2**	**E3**
Application	High Frequency	
Mounting	Solderless	Solderless
Bandwidth (GHz@-1dB)	20.3 GHz*	18.3 GHz*
Contact resistance	30 mOhm	
Chip contact tip shape	Gold Wire	
PCB tip shape	Gold Wire	
Force	20 gr to 50 gr	
Current rating	1 A	
Capacitance pF	0.15 pF	0.14 pF
Inductance nH	0.12 nH	0.05 nH
Impedance Ohms	41 Ω	39.7 Ω
Temperature range	-40°C to +125°C	
Mating cycles	1 K	

* Tested at 0.35mm Pitch

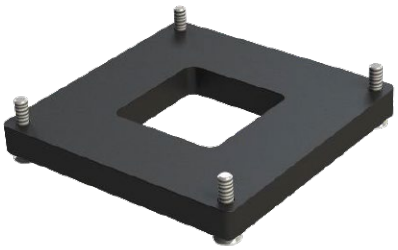
More on the next page

RoHS compliant

Standard assembly boards

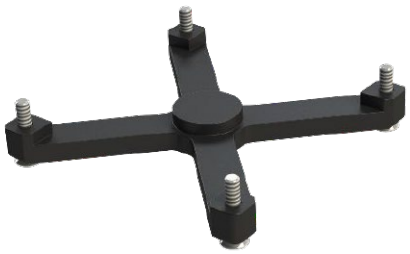
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

LE# ####-03E# - ###### 55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E2 : High Frequency 20.3 GHz
E3 : High Frequency 18.3 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

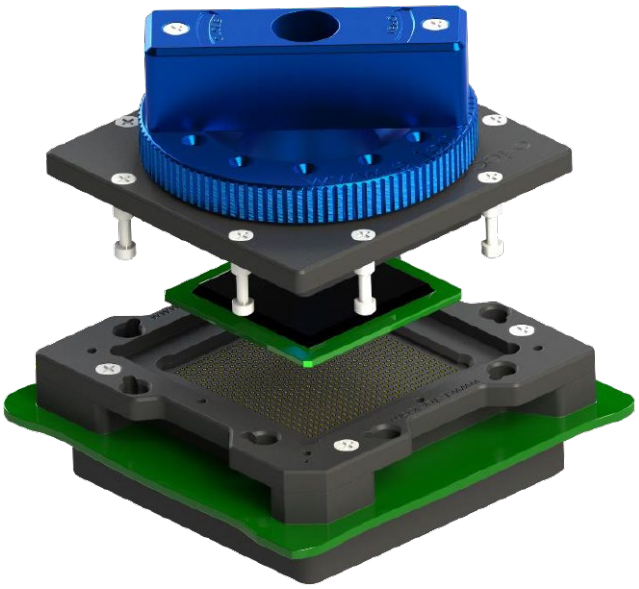
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

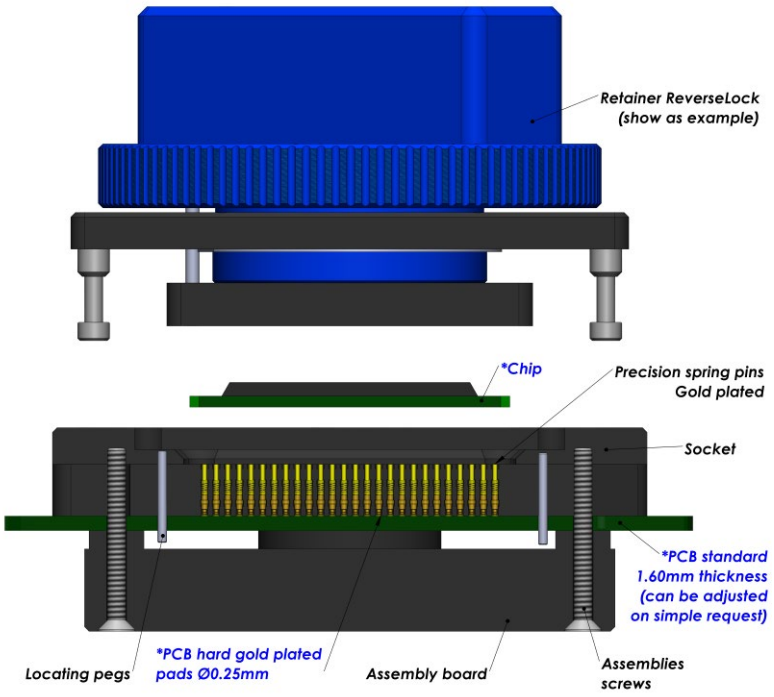
RoHS compliant

Probe Pin Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.40 mm pitch (from 0.40 mm to 0.49 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**0490**	**0491**	**0492**	**0494**
Application	Standard	Frequency	High Frequency	High Power
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	10 GHz	20 GHz	na
Contact resistance	<100 mOhm	100 mOhm	100 mOhm	100 mOhm
Chip contact tip shape	Single Point tip	Single Point tip	Single Point tip	Crown tip
PCB tip shape	Spring	Single Point tip	Single Point tip	Single Point tip
Force	20 gr	20 gr	20 gr	30 gr
Current rating	0.5 A	1.5 A	1.5 A	3 A
Capacitance pF	<1pF	0.90 pF	0.50 pF	na
Inductance nH	<2nH	1.50 nH	1.20 nH	na
Impedance Ohms	45 Ω	48 Ω	42 Ω	na
Temperature range	-55°C to +150°C	-40°C to +120°C	-40°C to +120°C	-40°C to +120°C
Mating cycles	100 K	300 K	100 K	100 K

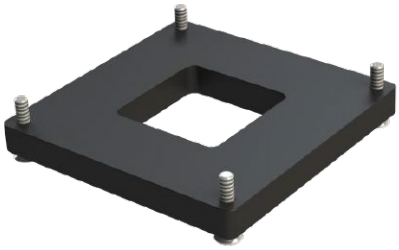
More on the next page

RoHS compliant

Standard assembly boards

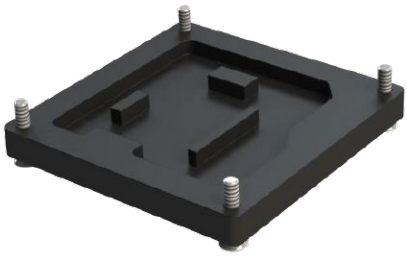
Small Chip size

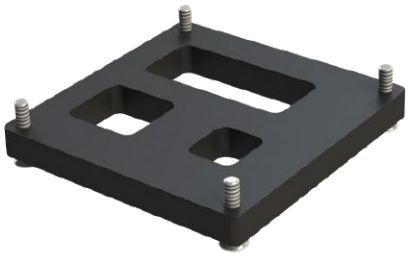
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LP # # # # # -049 # - # # # # # # # 55L #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 94 : See “Contacts specification” chart
90 : Standard solderless compression style
9M : Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W : TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

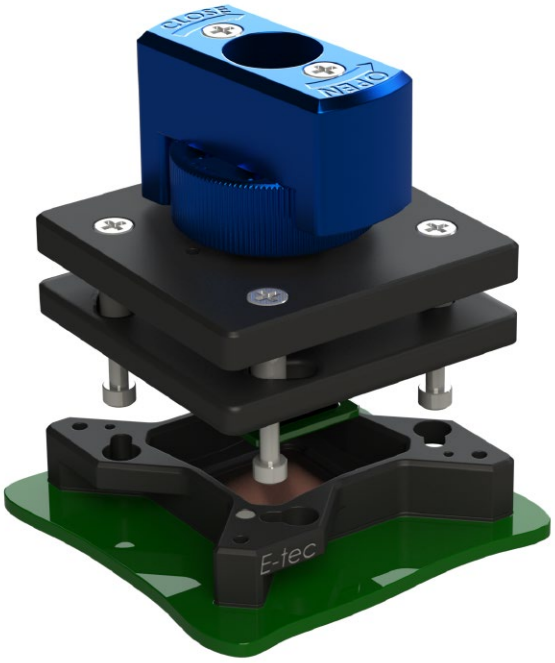
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

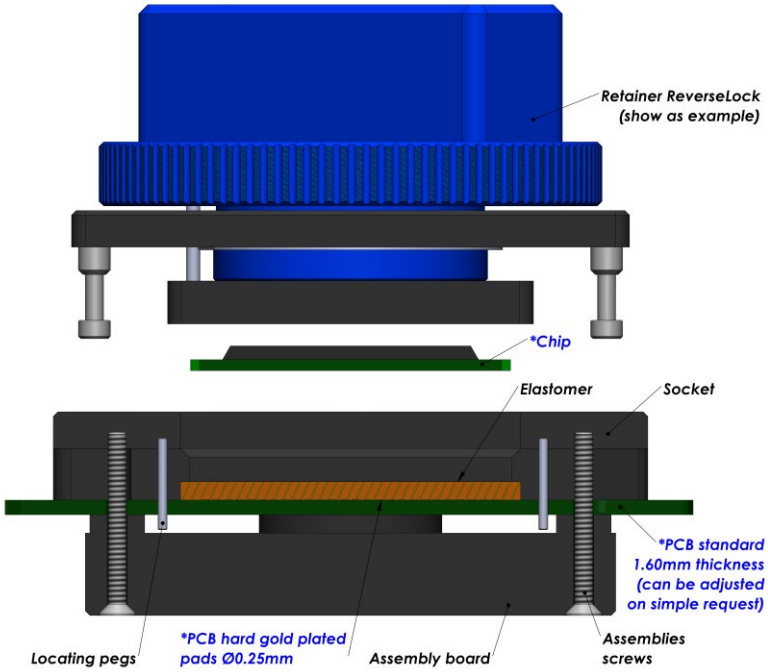
RoHS compliant

Elastomer Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.40 mm pitch (from 0.40 mm to 0.49 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	8.4 GHz	16.5 GHz	21.3 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	2.5 A		
Capacitance pF	0.28 pF	0.13 pF	0.10 pF
Inductance nH	0.26 nH	0.07 nH	0.06 nH
Impedance Ohms	34.7 Ω	38.9 Ω	42.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

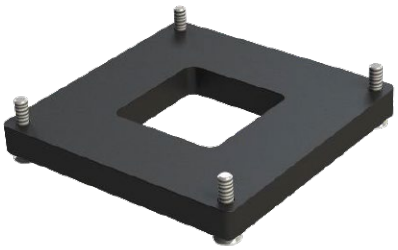
More on the next page

RoHS compliant

Standard assembly boards

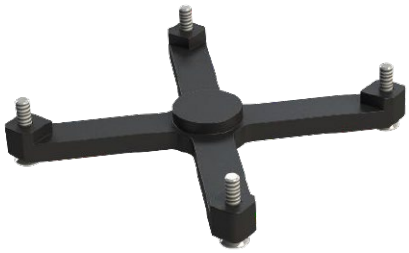
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

LE# ####-04E# - ######55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 8.4 GHz
E2 : High Frequency 16.5 GHz
E3: High Frequency 21.3 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

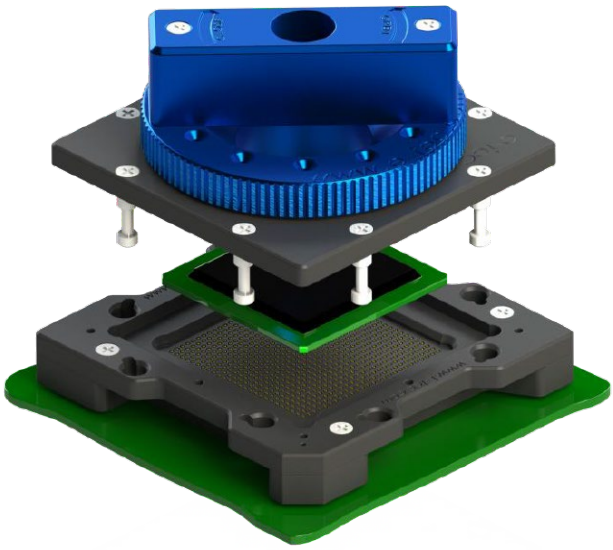
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

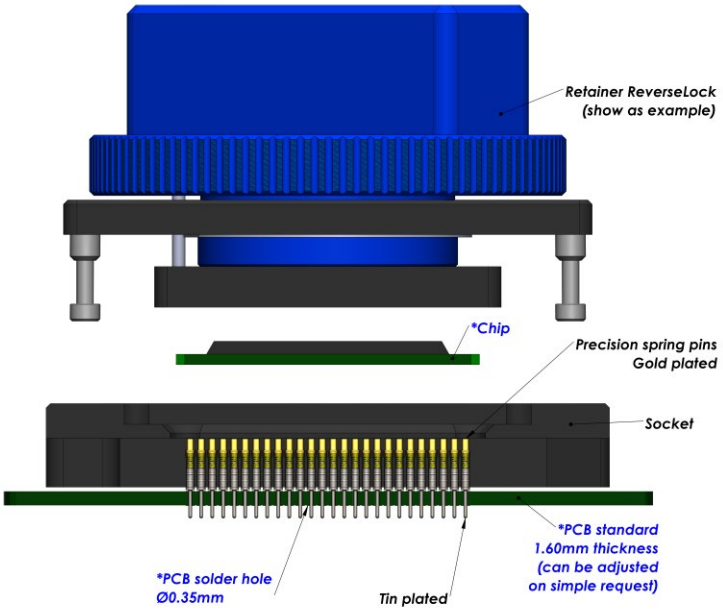
RoHS compliant

Through-hole (THT) soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0570			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

LP # #### -0570 - ###### 95 #

Shape of tip
- **P :** Pointed

Options:
- **C :** Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT

Plating
- **95:** Tin / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

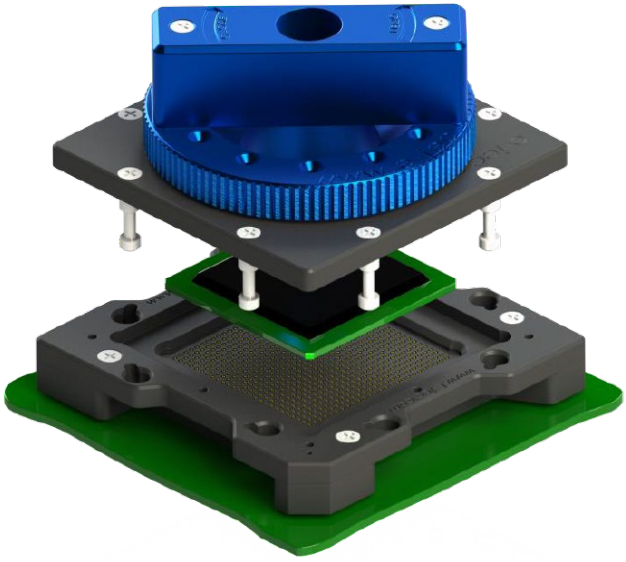
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

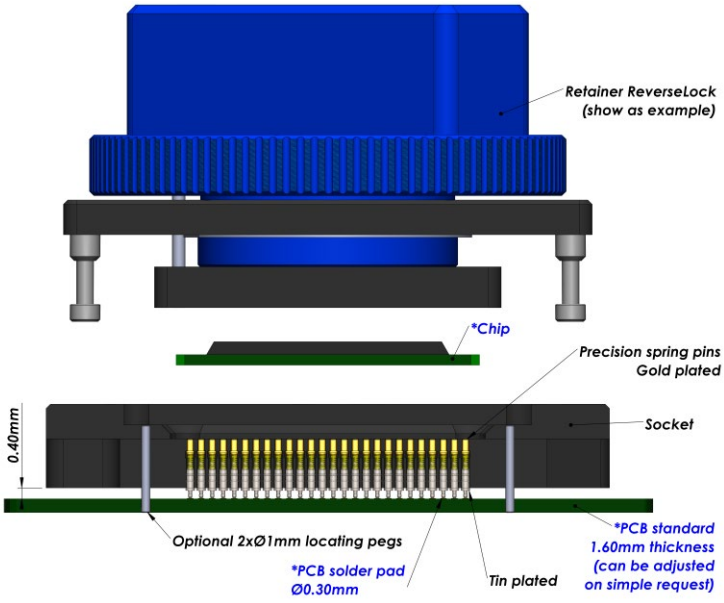
RoHS compliant

Standard SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0530			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

LP # ####-0530 - ######95 #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.40 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

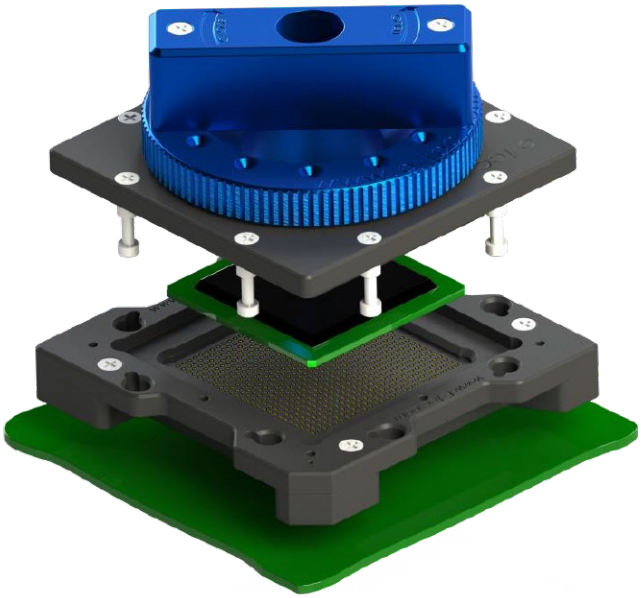
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

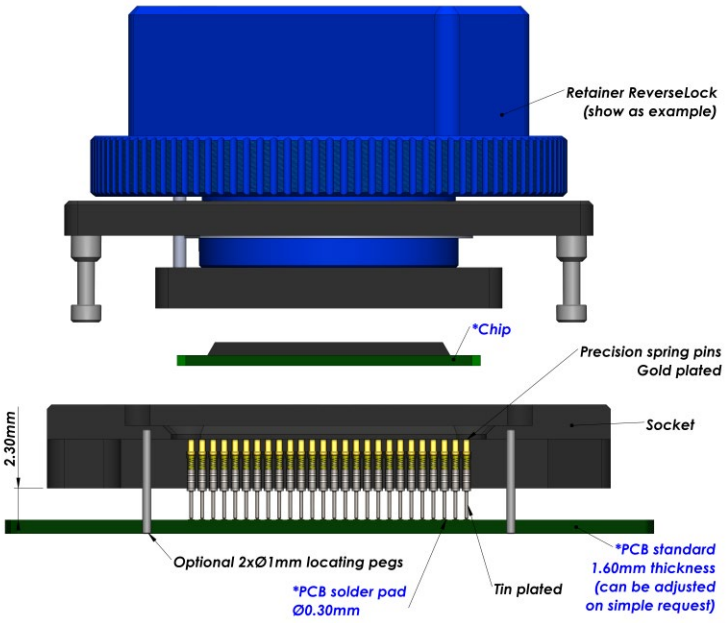
RoHS compliant

Raised SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0529			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

LP # ####-0529-######95A #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
29 : Raised SMT – Dimension A = 2.30 mm

Plating
95A: Tin/Gold + Alignment plate
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

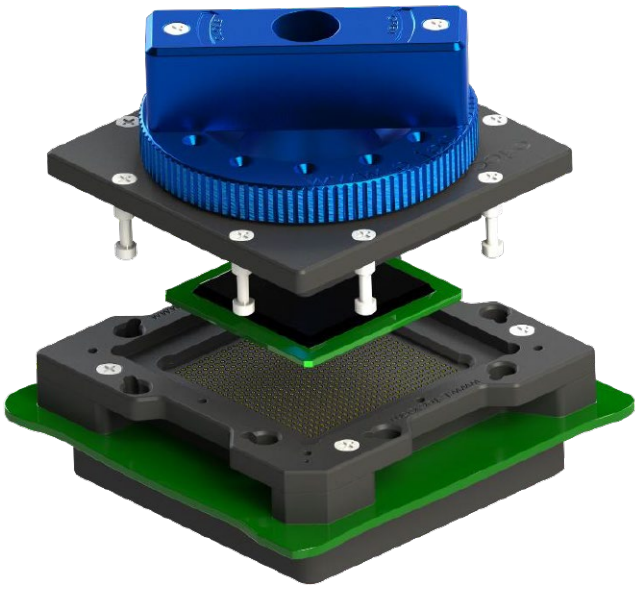
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

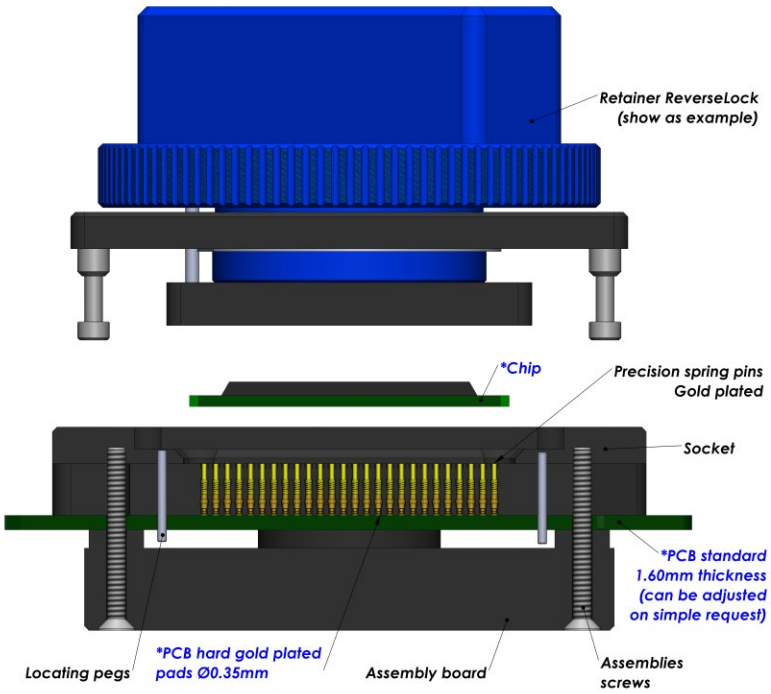
RoHS compliant

Probe Pin Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.50 mm pitch (from 0.50 mm to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0590**	**0591**	**0592**	**0593**	**0594**	**0598**
Application	Standard	Long live	High Frequency	High Temp & Long live	High Power	SuperHigh Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	7 GHz	29 GHz	8.9 GHz	9 GHz	40 GHz
Contact resistance	<100 mOhm	40 mOhm	100 mOhm	80 mOhm	80 mOhm	100 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Crown tip	Crown tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring
Force	30 gr	23 gr	20 gr	23 gr	30 gr	20 gr
Current rating	1.5 A	1 A	1.5 A	2 A	2 A	0.5 A
Capacitance pF	<1 pF	0.45 pF	0.48 pF	0.71 pF	na	0.36 pF
Inductance nH	<2 nH	1.08 nH	0.89 nH	0.67 nH	na	1.19 nH
Impedance Ohms	38 Ω	39 Ω	38 Ω	55 Ω	60 Ω	62 Ω
Temperature range	-55°C to +150°C	-50°C to +150°C	-40°C to +120°C	-50°C to +220°C	-50°C to +220°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	500 K	500 K	100 K

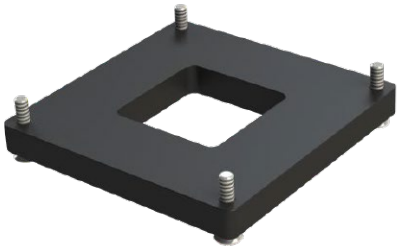
More on the next page

RoHS compliant

Standard assembly boards

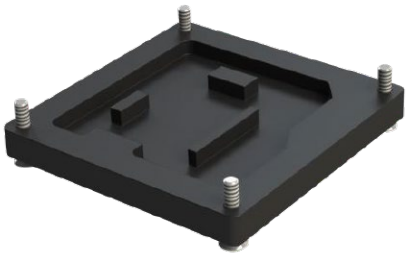
Small Chip size

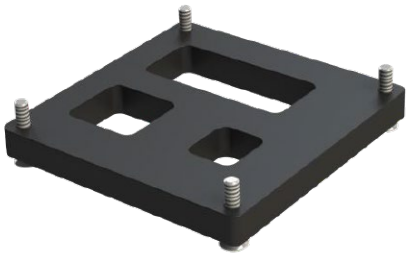
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LP # ####-059#-######55L#

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

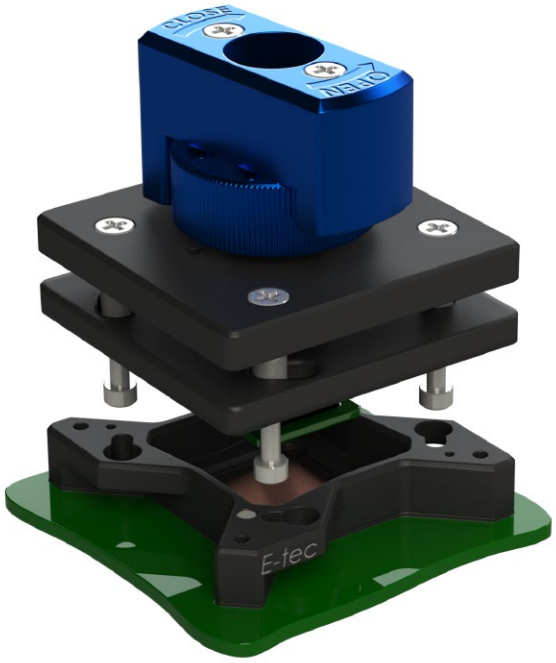
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

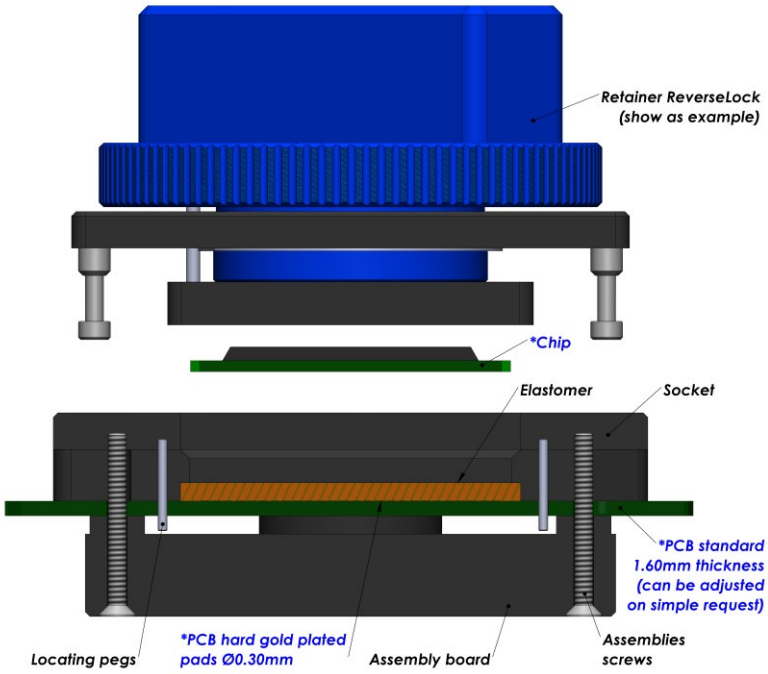
RoHS compliant

Elastomer Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.50 mm pitch (from 0.50 mm to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	17 GHz	34 GHz	>40 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	2.5 A		
Capacitance pF	0.14 pF	0.10 pF	0.06 pF
Inductance nH	0.23 nH	0.30 nH	0.03 nH
Impedance Ohms	41.3 Ω	47.1 Ω	51.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

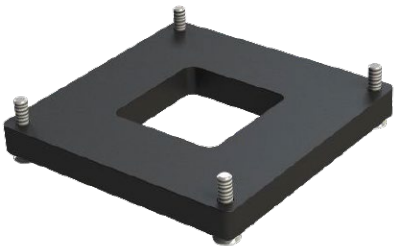
More on the next page

RoHS compliant

Standard assembly boards

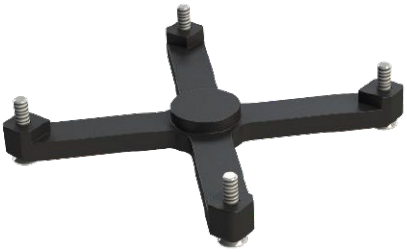
Small Chip size

Medium Chip size



Large Chip size

Custom assembly boards



How to order

LE# ####-05E# - ######55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 17 GHz
E2 : High Frequency 34 GHz
E3 : High Frequency 40 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

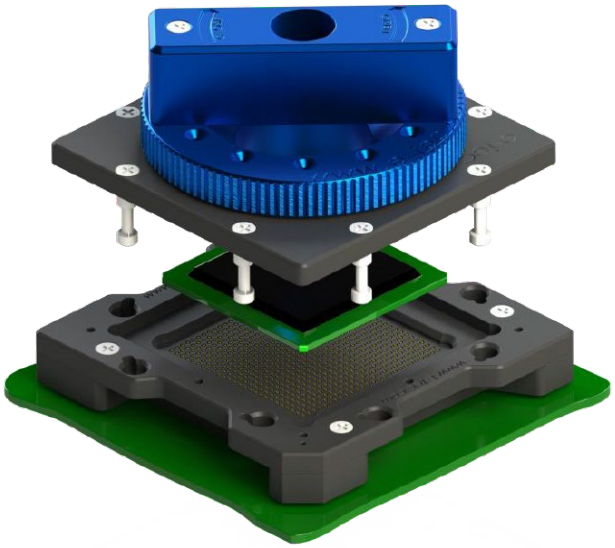
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

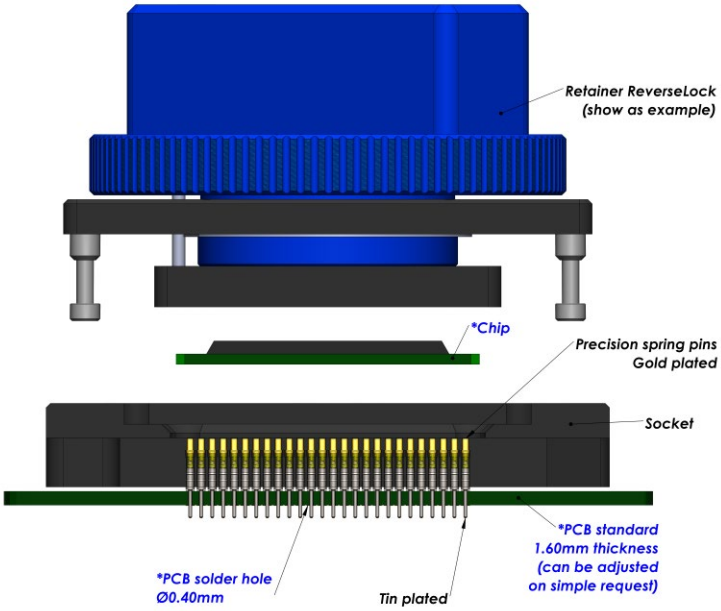
RoHS compliant

Through-hole (THT) soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0870			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

LP # #### -087# - ###### #5 #

Shape of tip
- **P :** Pointed

Options:
- **C :** Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70:** Standard THT
- **72:** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold/ Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

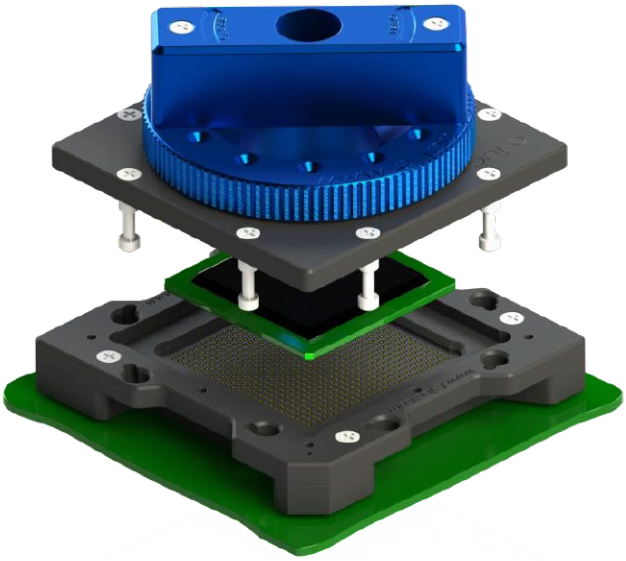
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

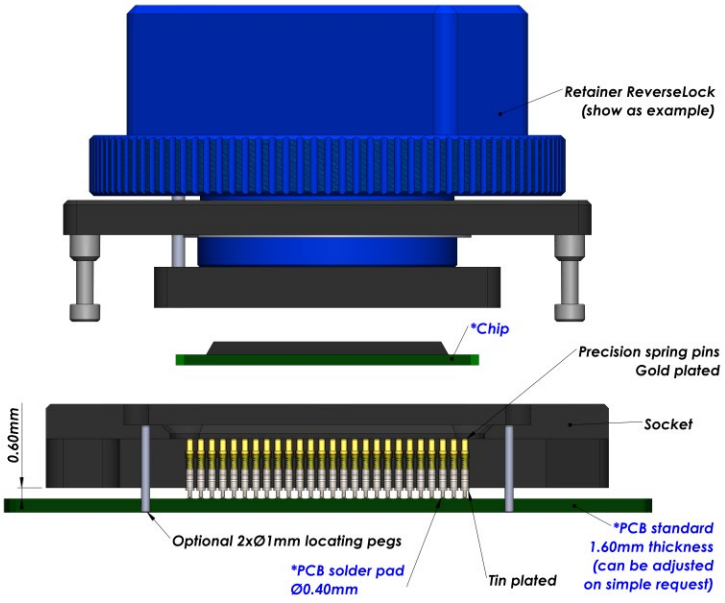
RoHS compliant

Standard SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0830			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.6(4.4) GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

LP # ####-0830 - ######95 #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.60 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

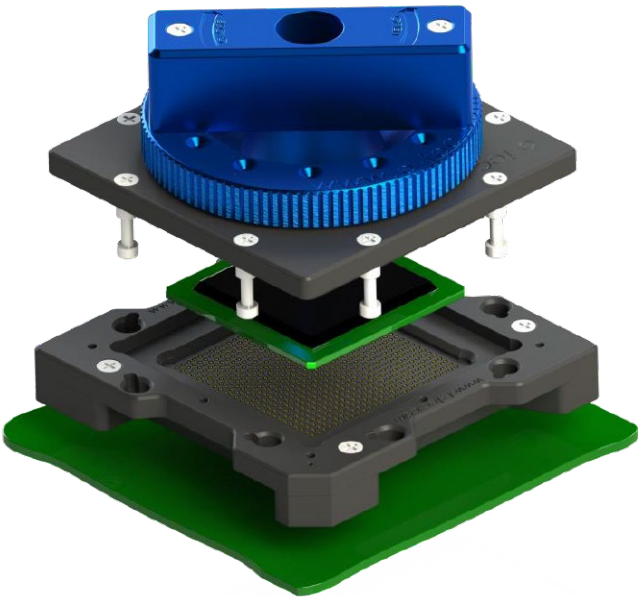
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

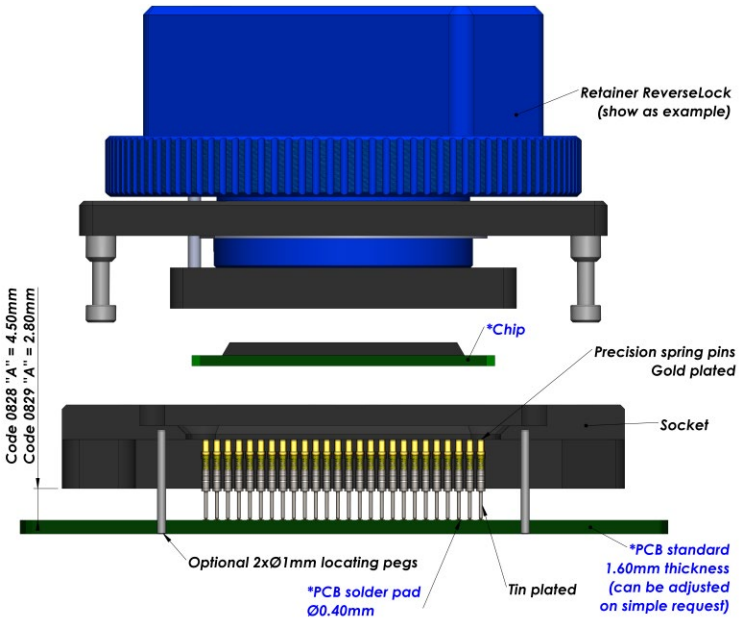
RoHS compliant

Raised SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0829 & 0828			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

LP # ####-082# - ######95A#

Shape of tip
- **P :** Pointed

Options:
- **C :** Crown

Nbr of contacts

Depends on ballcount of chip

Contact type
- **29:** Raised SMT – Dimension A = 2.80 mm
- **28:** Special Raised SMT - Dim. A = 4.50 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

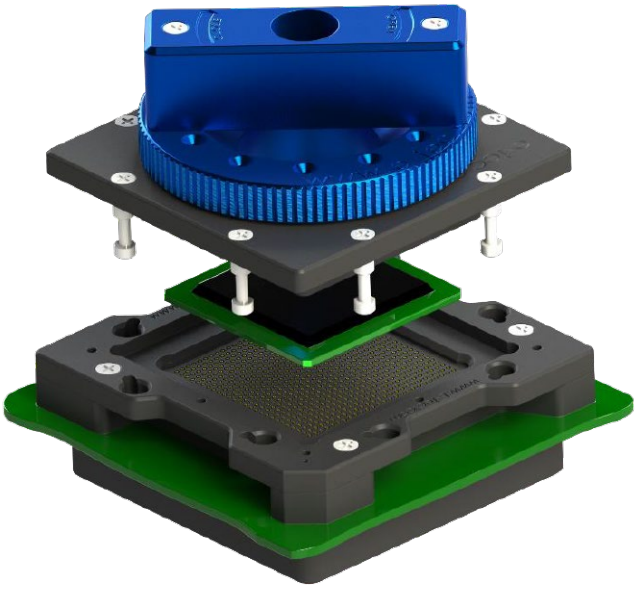
Will be given by the factory after receipt of the chip datasheet

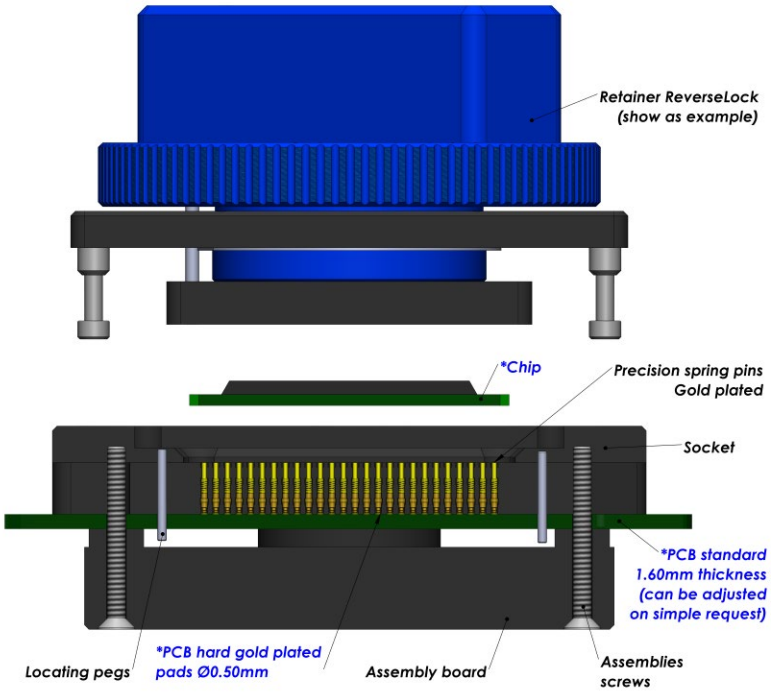
RoHS compliant

Probe Pin Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.80 mm pitch (from 0.80 mm to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0890**	**0891**	**0893**	**0892**	**0894**	**0898**
Application	Standard	High Frequency	Low Contact Resistance	High Frequency	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3.4 GHz	36 GHz	7 GHz	31 GHz	14 GHz	31.7 GHz
Contact resistance	<100 mOhm	100 mOhm	40 mOhm	90 mOhm	90 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Single Point tip	Crown tip	Single Point tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Spring	Spring	Spring
Force	30 gr	33 gr	23 gr	20 gr	20 gr	25 gr
Current rating	1.8 A	1 A	1 A	0.5 A	0.5 A	2.6 A
Capacitance pF	<1 pF	0.47 pF	0.55 pF	0.37 pF	0.30 pF	0.60 pF
Inductance nH	<2 nH	0.93 nH	1.08 nH	1.67 nH	1.66 nH	1.38 nH
Impedance Ohms	40 Ω	38 Ω	39 Ω	73 Ω	78 Ω	44.8 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +150°C	-55°C to +150°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	100 K	100 K	100 K	100 K	100 K

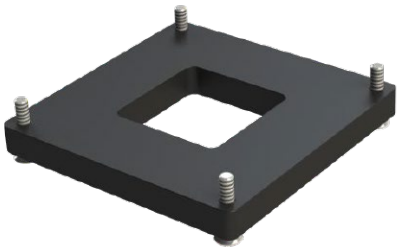
More on the next page

RoHS compliant

Standard assembly boards

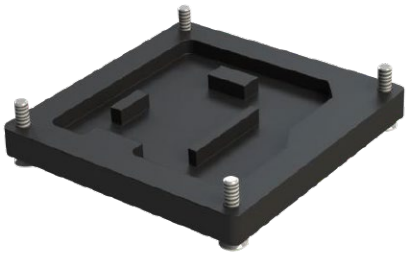
Small Chip size

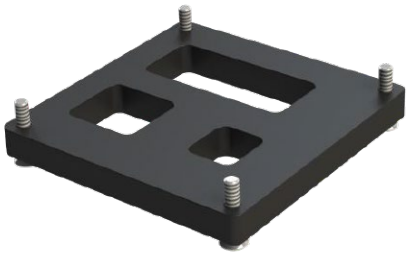
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LP # # # # # -089 # - # # # # # # # 55L #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M : Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

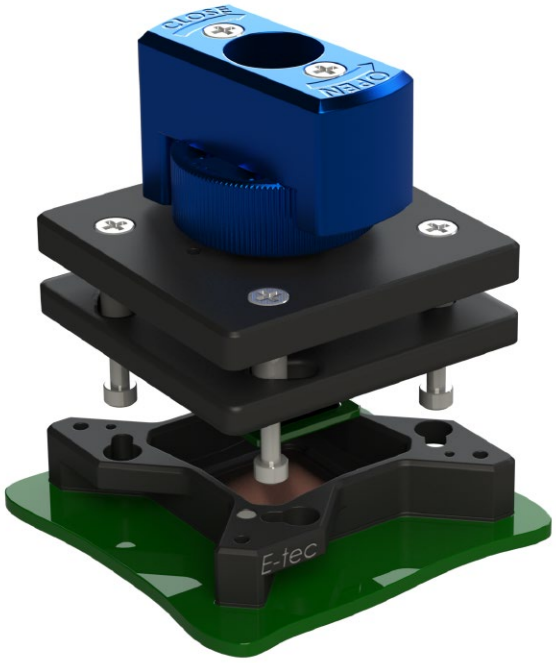
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

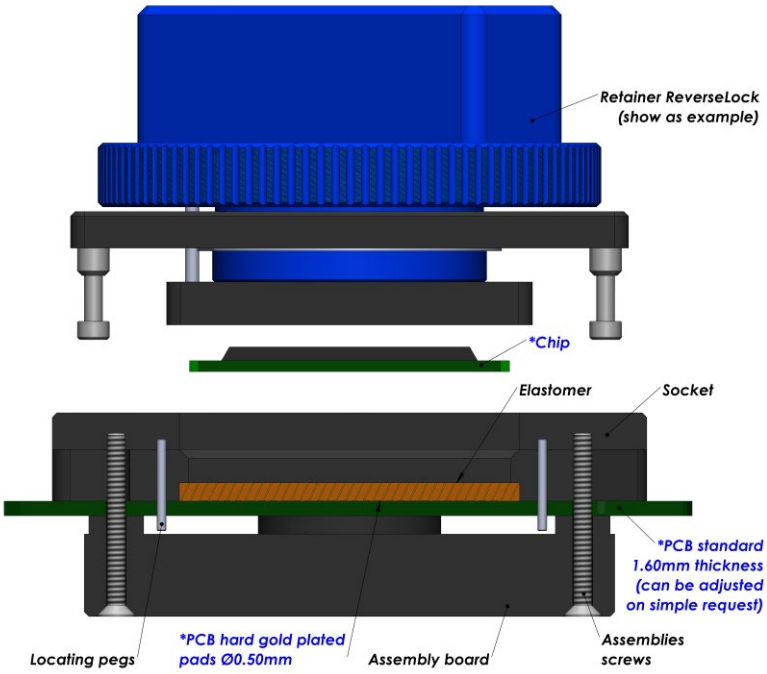
RoHS compliant

Elastomer Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

0.80 mm pitch (from 0.80 mm to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications		
Contact type code	**E1**	**E2**
Application	High Frequency	
Mounting	Solderless	Solderless
Bandwidth (GHz@-1dB)	23 GHz	24 GHz
Contact resistance	30 mOhm	
Chip contact tip shape	Gold Wire	
PCB tip shape	Gold Wire	
Force	20 gr to 50 gr	
Current rating	3 A	
Capacitance pF	0.26 pF	0.16 pF
Inductance nH	0.52 nH	0.26 nH
Impedance Ohms	44.8 Ω	44.4 Ω
Temperature range	-40°C to +125°C	
Mating cycles	1 K	

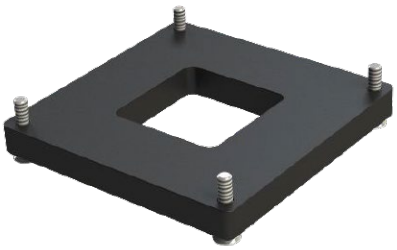
More on the next page

RoHS compliant

Standard assembly boards

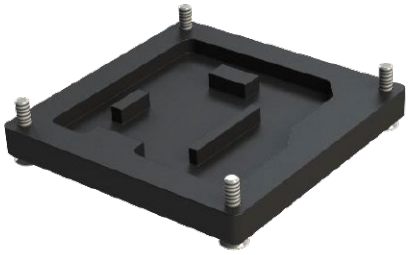
Small Chip size

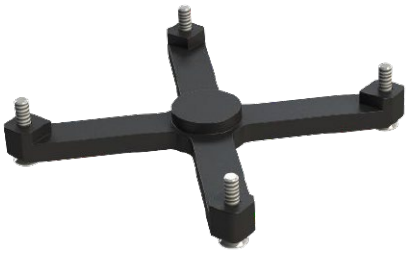
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LE# ####-08E# - ######55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 23 GHz
E2 : High Frequency 24 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

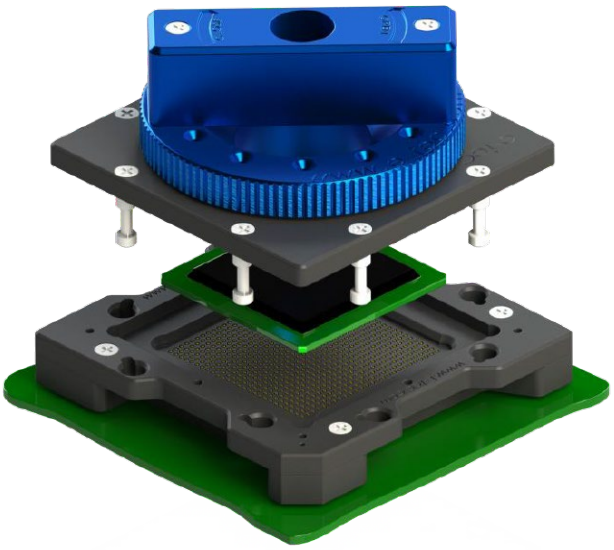
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

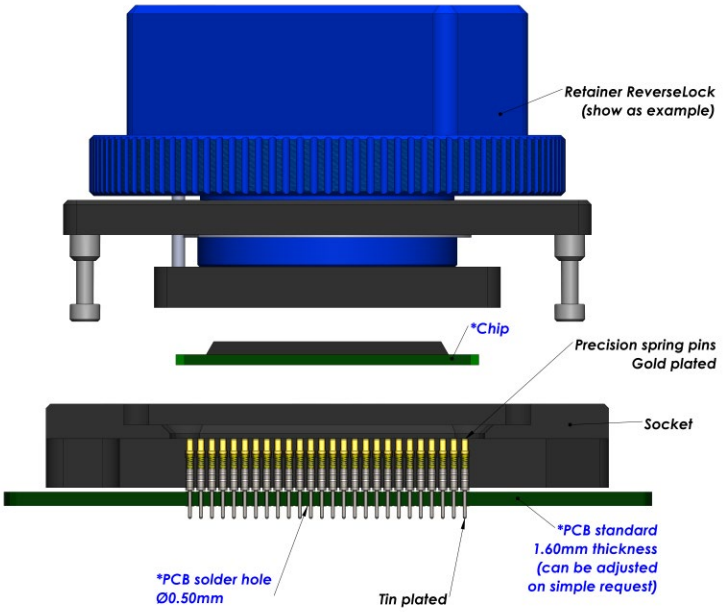
RoHS compliant

Through-hole (THT) soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1070			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	1.03 pF
Contact resistance	<100mOhm	**Inductance nH**	1.80 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

LP # #### -107# - ###### #5 #

Shape of tip
- **P :** Pointed

Options:
- **C :** Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold/ Gold
- Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

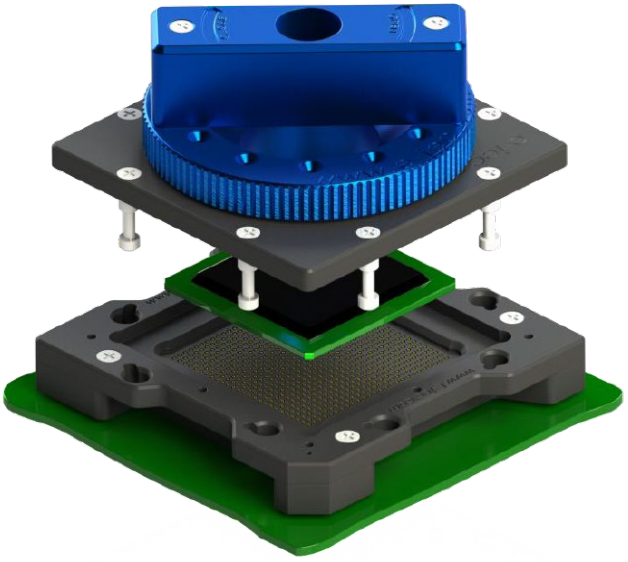
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

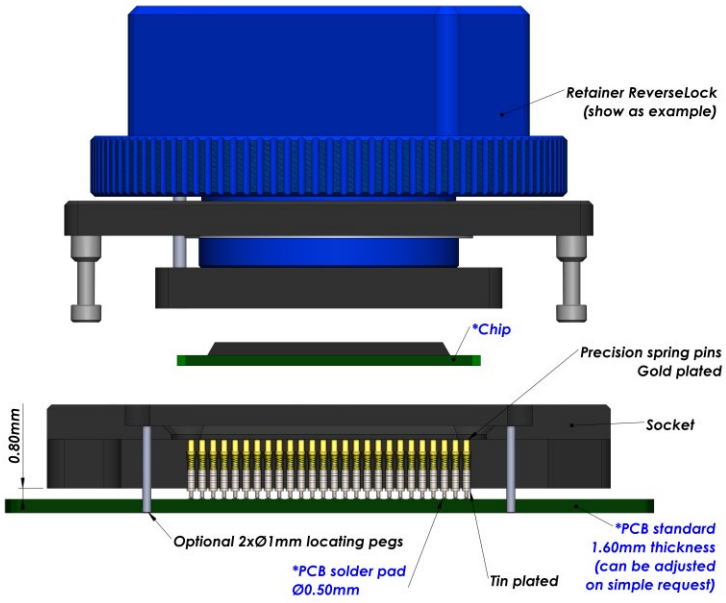
RoHS compliant

Standard SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1030			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.8(6.6) GHz	**Capacitance pF**	0.62 pF
Contact resistance	<100mOhm	**Inductance nH**	1.97 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

LP # ####-1030 -######95 #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.80 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

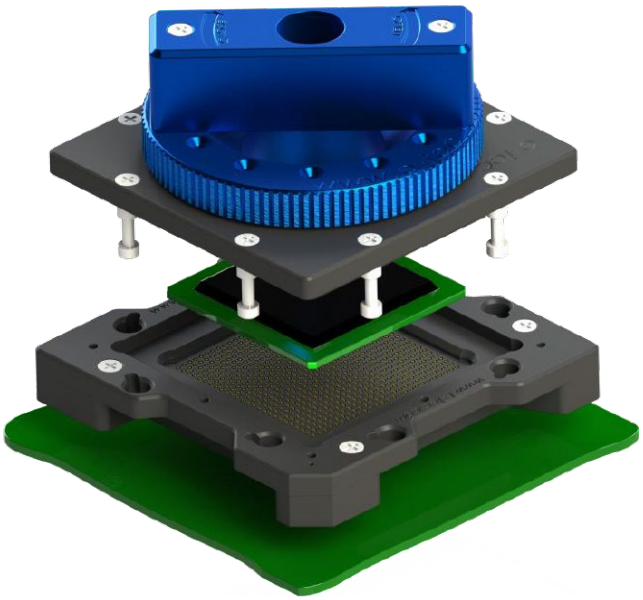
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

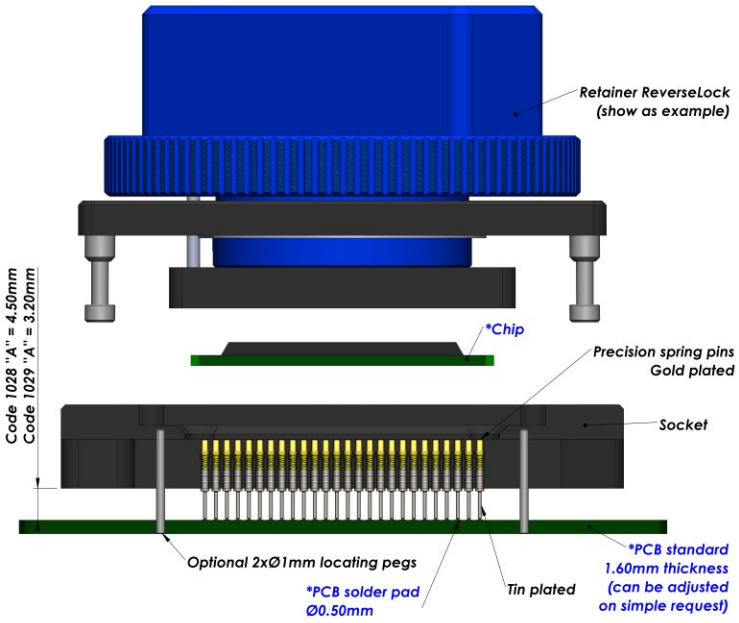
RoHS compliant

Raised SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications Contact type code 1029 & 1028			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

LP # ####-102# - ######95A#

Shape of tip
- **P :** Pointed

Options:
- **C :** Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
- **29 :** Raised SMT – Dimension A = 3.20 mm
- **28 :** Special Raised SMT - Dim. A = 4.50 mm

Plating
- **95A:** Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

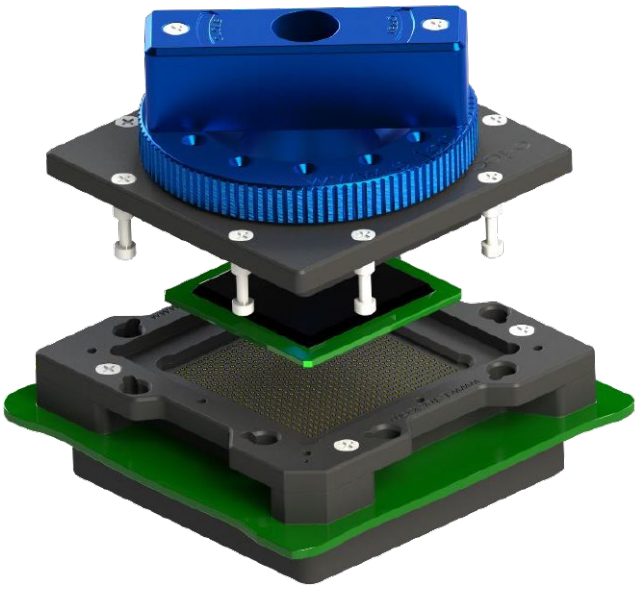
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

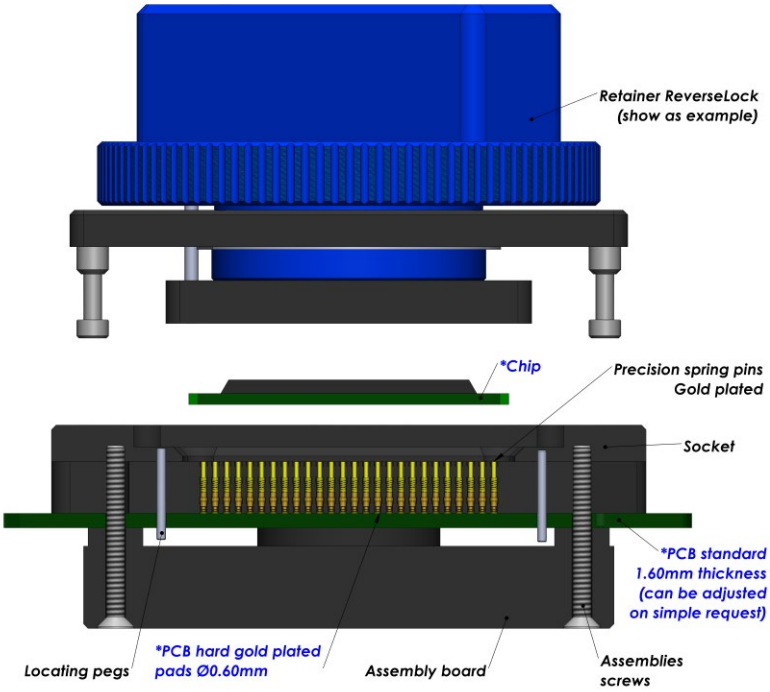
RoHS compliant

Probe Pin Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.00 mm pitch (from 1.00 mm to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**1090**	**1091**	**1092**	**1093**	**1094**	**1098**
Application	Standard	Long Live	High Frequency	High Power	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	11 GHz	31 GHz	10 GHz	9.4 GHz	30.3 GHz
Contact resistance	<100 mOhm	45 mOhm	100 mOhm	30 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Round tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	33 gr	30 gr	25 gr	25 gr
Current rating	1.8 A	3 A	1 A	4 A	5 A	2.6 A
Capacitance pF	<1 pF	0.55 pF	0.39 pF	0.19 pF	0.85 pF	0.54 pF
Inductance nH	<2 nH	0.76 nH	1.01 nH	0.93 nH	1.36 nH	1.70 nH
Impedance Ohms	45 Ω	36 Ω	46 Ω	38 Ω	35 Ω	59.9 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +120°C	-55°C to +180°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	125 K	100 K	100 K

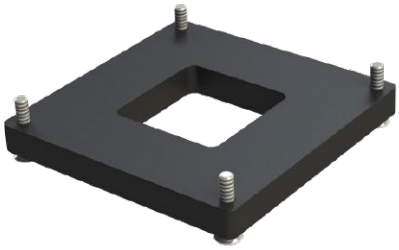
More on the next page

RoHS compliant

Standard assembly boards

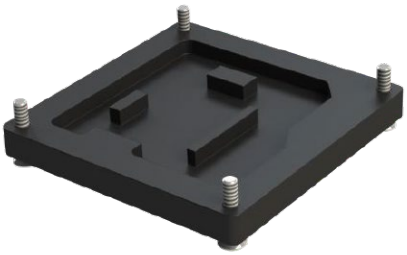
Small Chip size

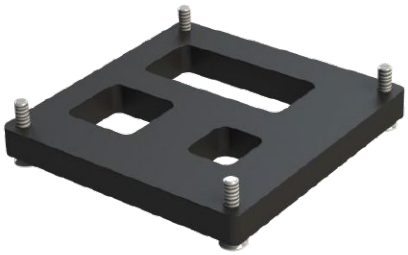
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LP # ####-109#-######55L #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

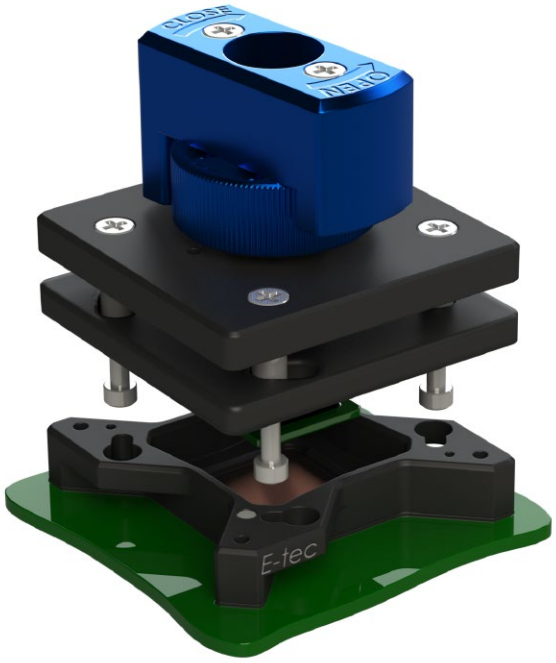
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

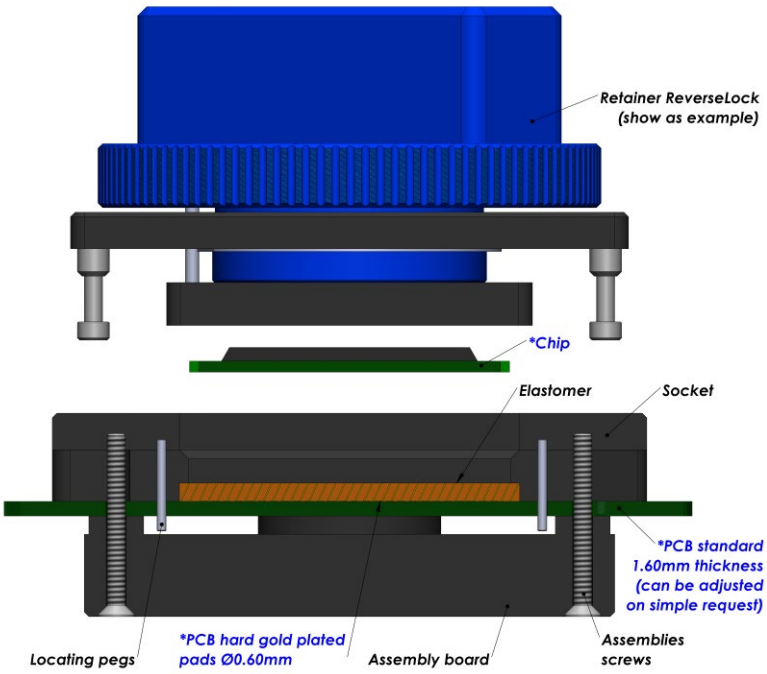
RoHS compliant

Elastomer Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.00 mm pitch (from 1.00 mm to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	20 GHz	38 GHz	30 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	3 A		
Capacitance pF	0.26 pF	0.12 pF	0.10 pF
Inductance nH	0.52 nH	0.35 nH	0.18 nH
Impedance Ohms	44.8 Ω	44.4 Ω	42.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

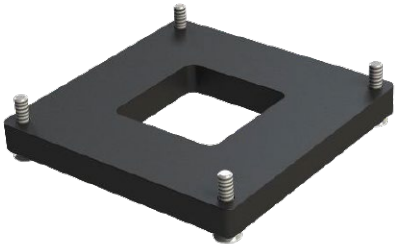
More on the next page

RoHS compliant

Standard assembly boards

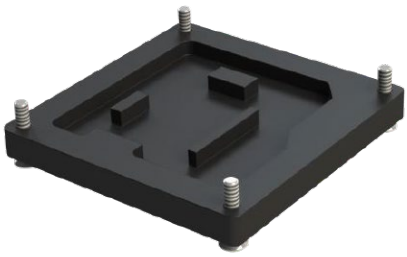
Small Chip size

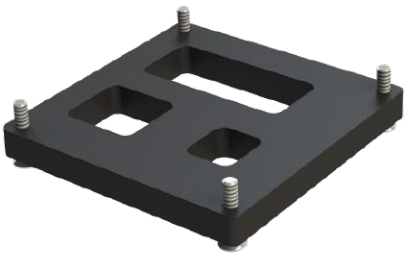
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LE# ####-10E# - ###### 55L #

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 20 GHz
E2 : High Frequency 38 GHz
E3 : High Frequency 30 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

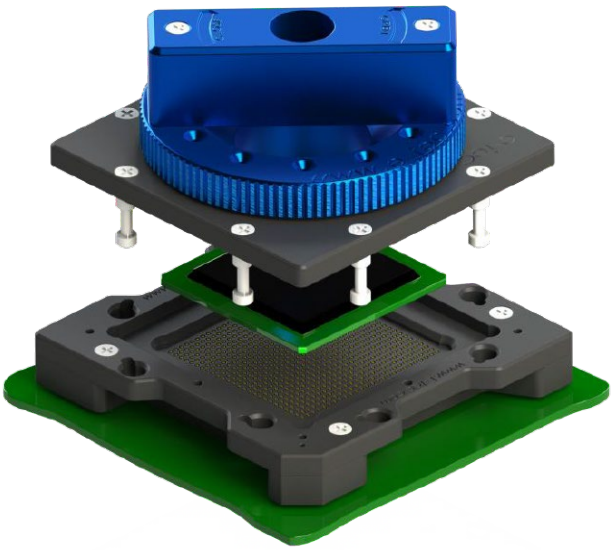
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

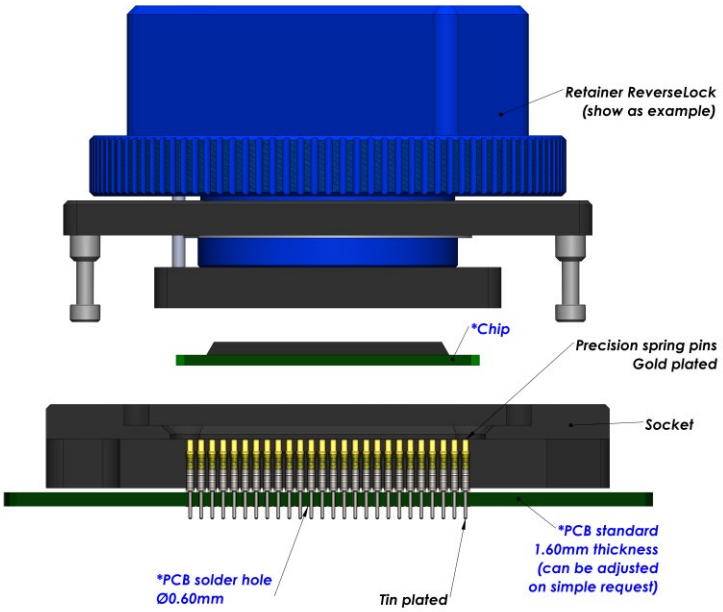
RoHS compliant

Through-hole (THT) soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1270			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

LP # ####-127# - ###### #5 #

Shape of tip
- **P :** Pointed

Options:
- **C :** Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold/ Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

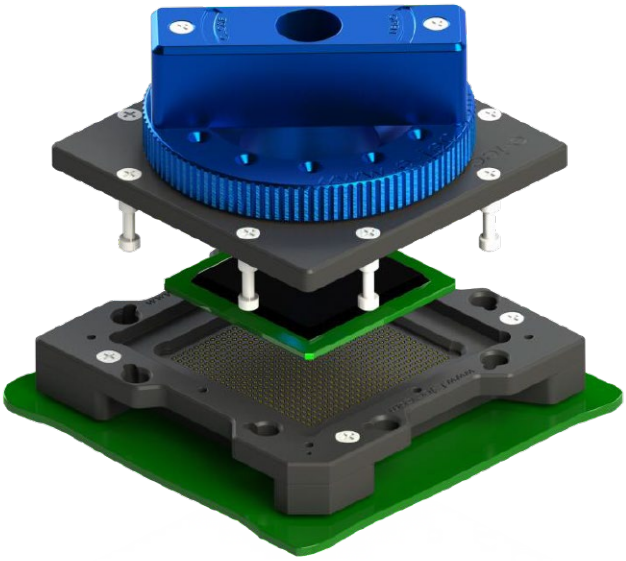
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

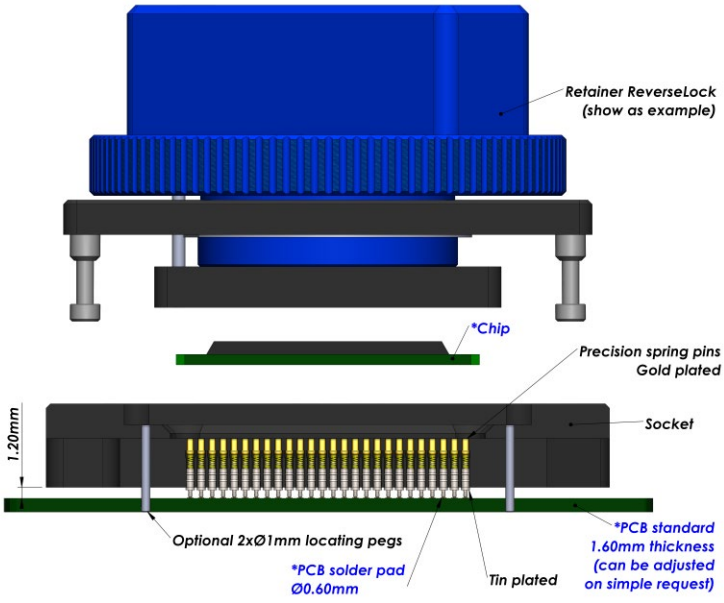
RoHS compliant

Standard SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1230			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

LP # ####-1230 - ######95 #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 1.20 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

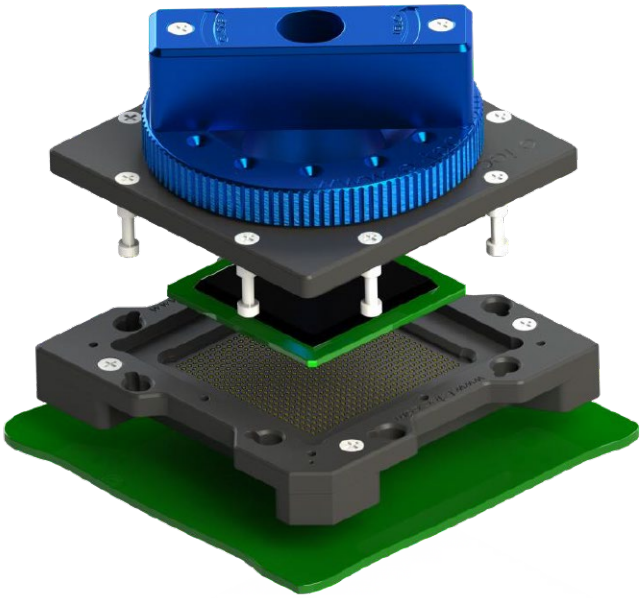
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

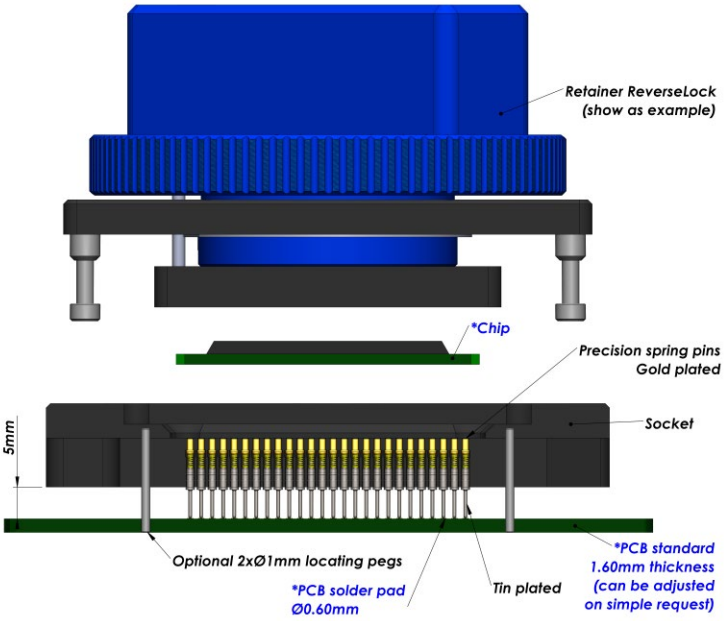
RoHS compliant

Raised SMT soldering Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1229			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

LP # ####-1229-######95A #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
29 : Raised SMT – Dimension A = 5.00 mm

Plating
95A: Tin/Gold + Alignment plate
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

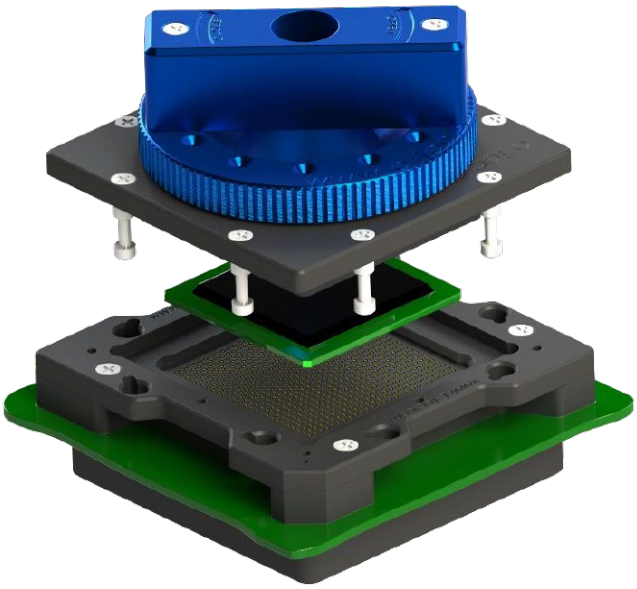
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

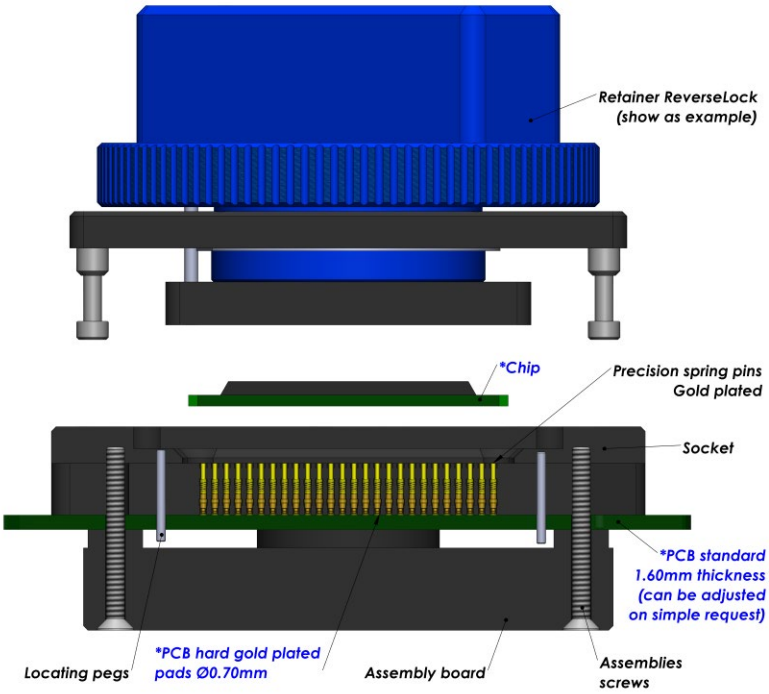
RoHS compliant

Probe Pin Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**1290**	**1291**	**1294**	**1298**
Application	Standard	High Frequency + Long Live	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	37.5 GHz	13.3 GHz	23.7 GHz
Contact resistance	<100 mOhm	45 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	25 gr	25 gr
Current rating	2.2 A	3 A	5 A	2.6 A
Capacitance pF	<1 pF	0.43 pF	0.76 pF	0.50 pF
Inductance nH	<2 nH	0.82 nH	1.73 nH	2.03 nH
Impedance Ohms	48 Ω	41 Ω	42.8 Ω	67.5 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	100 K

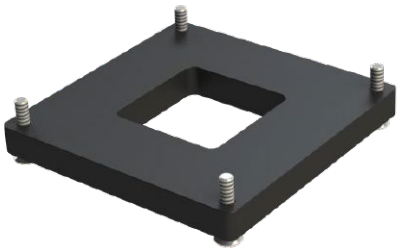
More on the next page

RoHS compliant

Standard assembly boards

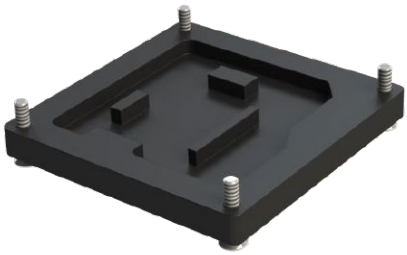
Small Chip size

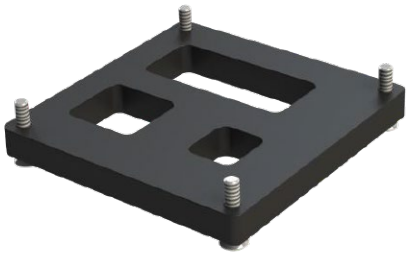
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LP # # # # # -129 # - # # # # # # # 55L #

Shape of tip
P : Pointed
Options:
C : Crown

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M : Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

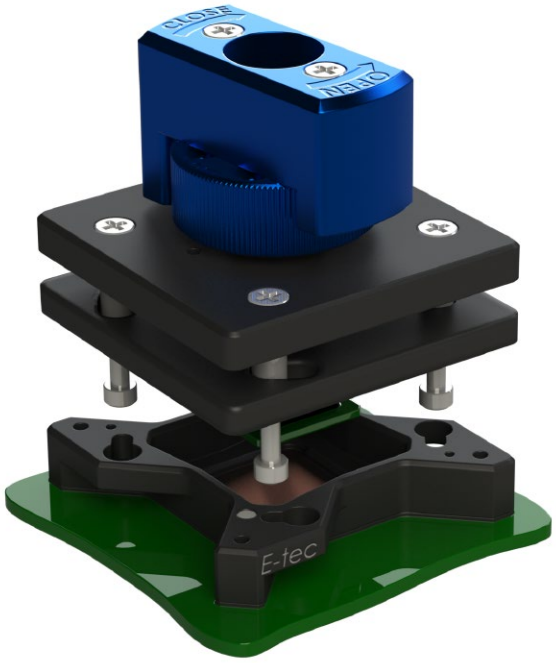
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

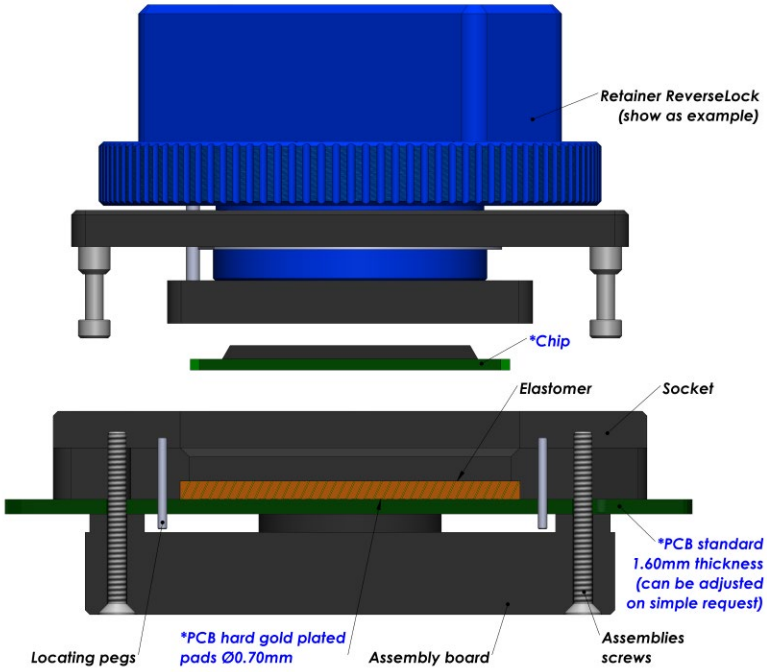
RoHS compliant

Elastomer Solderless Compression Test Socket

For LGA / QFN / MLF / MLP / LCC Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Elastomer Solderless compression Test Sockets are ideal technical solution for good signal integrity with low signal loss. The sockets are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The socket outline will be kept to a minimum and special clearances can be offered to avoid components on the PCB.
SMT and thru-hole adapter sockets are available in certain pitches (contact factory for availability first) with these elastomer interposers to allow using this high frequency interposer on PCB's which have already been laid out for SMT or thru-hole sockets.
We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications			
Contact type code	**E1**	**E2**	**E3**
Application	High Frequency		
Mounting	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	20 GHz	38 GHz	30 GHz
Contact resistance	30 mOhm		
Chip contact tip shape	Gold Wire		
PCB tip shape	Gold Wire		
Force	20 gr to 50 gr		
Current rating	3 A		
Capacitance pF	0.26 pF	0.12 pF	0.10 pF
Inductance nH	0.52 nH	0.35 nH	0.18 nH
Impedance Ohms	44.8 Ω	44.4 Ω	42.1 Ω
Temperature range	-40°C to +125°C		
Mating cycles	1 K		

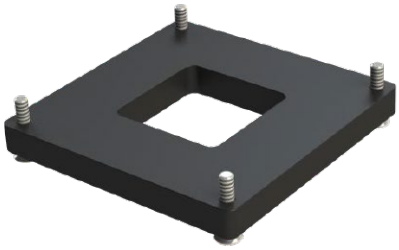
More on the next page

RoHS compliant

Standard assembly boards

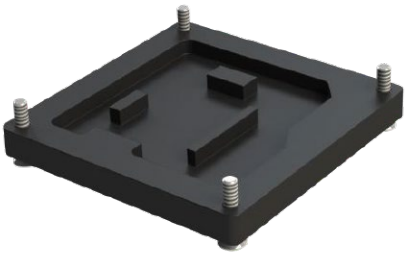
Small Chip size

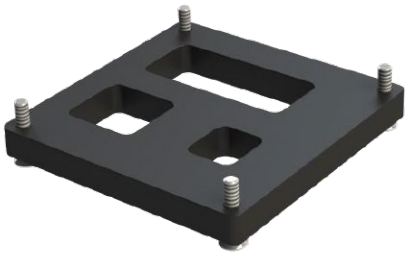
Medium Chip size



Large Chip size

Custom assembly boards





How to order

LE# ####-12E#-######55L#

Shape of tip
E : Elastomer

Nbr of contacts
Depends on ballcount of chip

Contact type
E1 : High Frequency 20 GHz
E2 : High Frequency 38 GHz
E3 : High Frequency 30 GHz

Plating
55L: Gold + Locating pegs

Option code (see page 16-19)
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

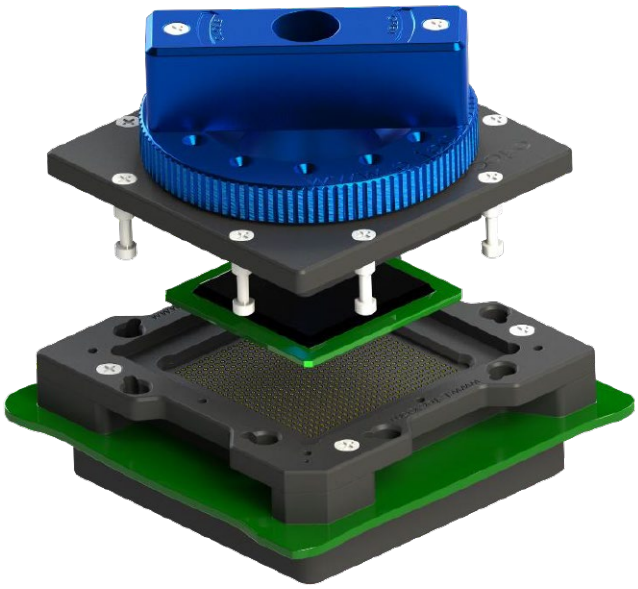
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

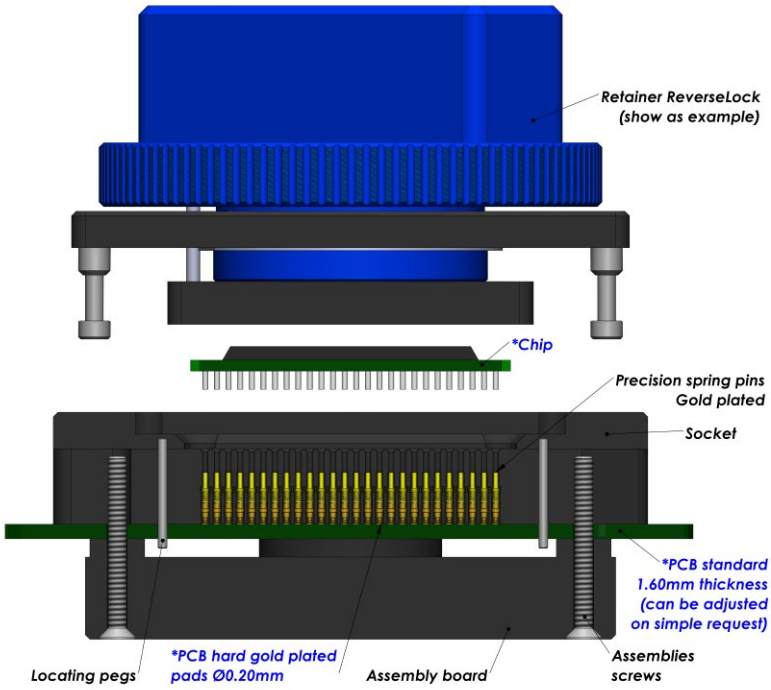
RoHS compliant

Probe Pin Solderless Compression Test Socket

For CGA / PGA / PGI Package

0.30 mm pitch (from 0.30 mm to 0.39 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications	
Contact type code	**0398**
Application	High Frequency
Mounting	Solderless
Bandwidth (GHz@-1dB)	19 GHz
Contact resistance	<100 mOhm
Chip contact tip shape	Single Point tip
PCB tip shape	Single Point tip
Force	17 gr
Current rating	0.8 A
Capacitance pF	0.50 pF
Inductance nH	1.27 nH
Impedance Ohms	45 Ω
Temperature range	-45°C to +125°C
Mating cycles	150 K

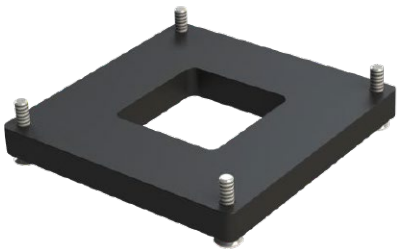
More on the next page

RoHS compliant

Standard assembly boards

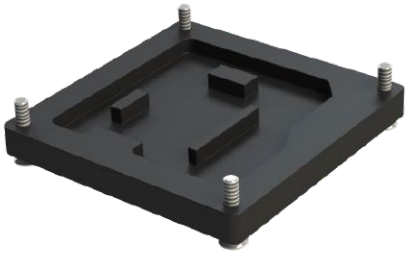
Small Chip size

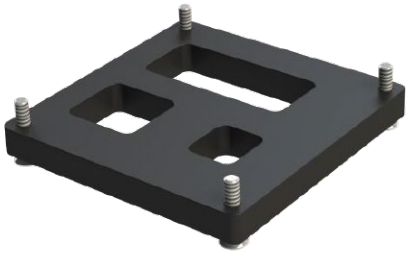
Medium Chip size



Large Chip size

Custom assembly boards





How to order

CP # ####-0398 -######55L #

Shape of tip
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
98 : See “Contacts specification” chart

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

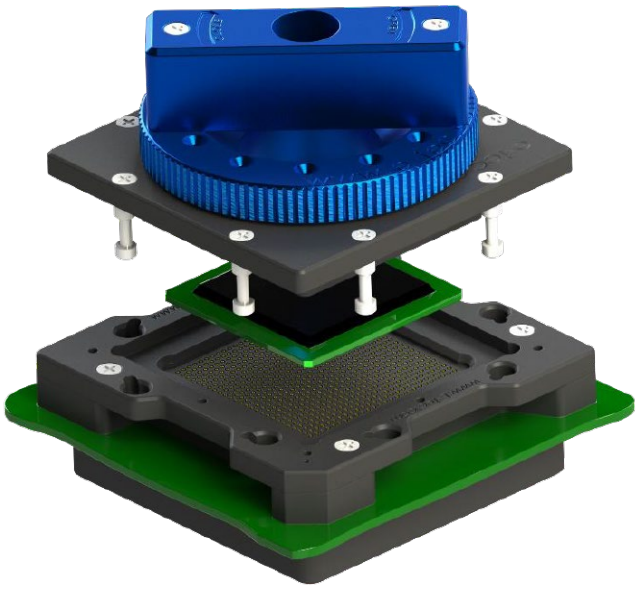
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

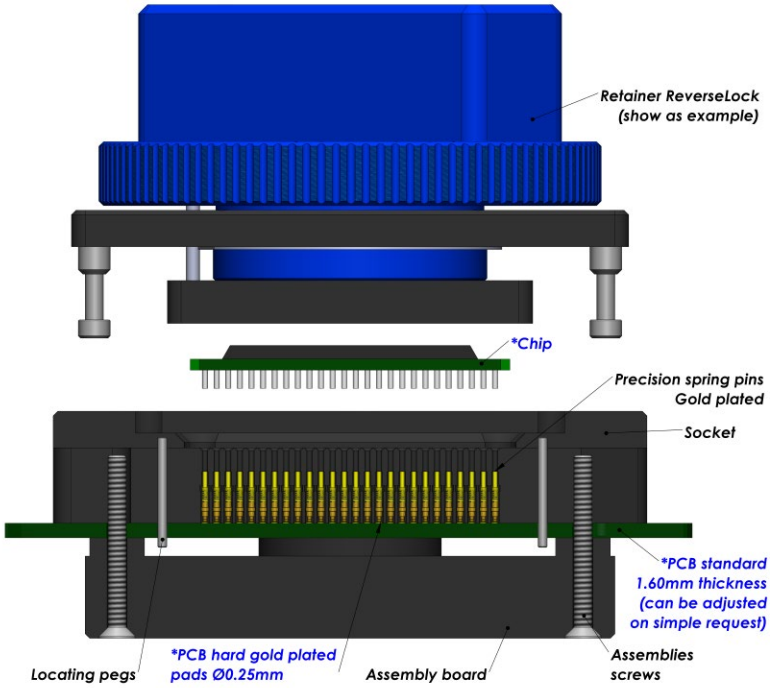
RoHS compliant

Probe Pin Solderless Compression Test Socket

For CGA / PGA / PGI Package

0.40 mm pitch (from 0.40 mm to 0.49 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**0490**	**0491**	**0492**	**0494**
Application	Standard	Frequency	High Frequency	High Power
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	10 GHz	20 GHz	na
Contact resistance	<100 mOhm	100 mOhm	100 mOhm	100 mOhm
Chip contact tip shape	Single Point tip	Single Point tip	Single Point tip	Crown tip
PCB tip shape	Spring	Single Point tip	Single Point tip	Single Point tip
Force	20 gr	20 gr	20 gr	30 gr
Current rating	0.5 A	1.5 A	1.5 A	3 A
Capacitance pF	<1pF	0.90 pF	0.50 pF	na
Inductance nH	<2nH	1.50 nH	1.20 nH	na
Impedance Ohms	45 Ω	48 Ω	42 Ω	na
Temperature range	-55°C to +150°C	-40°C to +120°C	-40°C to +120°C	-40°C to +120°C
Mating cycles	100 K	300 K	100 K	100 K

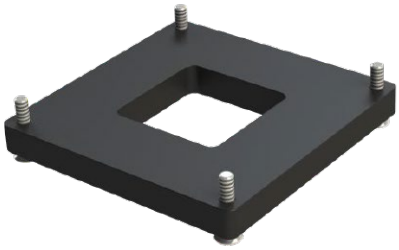
More on the next page

RoHS compliant

Standard assembly boards

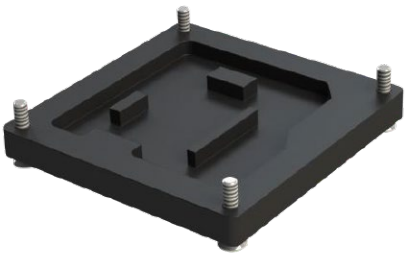
Small Chip size

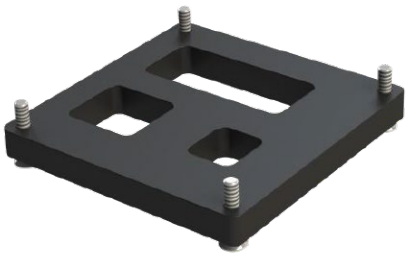
Medium Chip size



Large Chip size

Custom assembly boards





How to order

CP # ####-049#-######55L #

Shape of tip
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 94 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

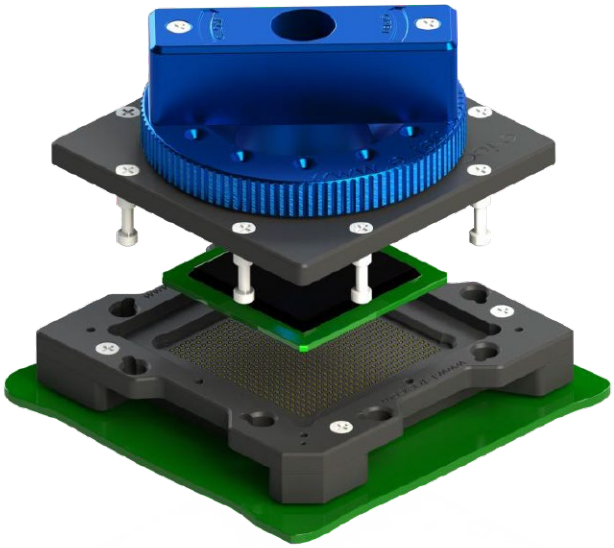
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

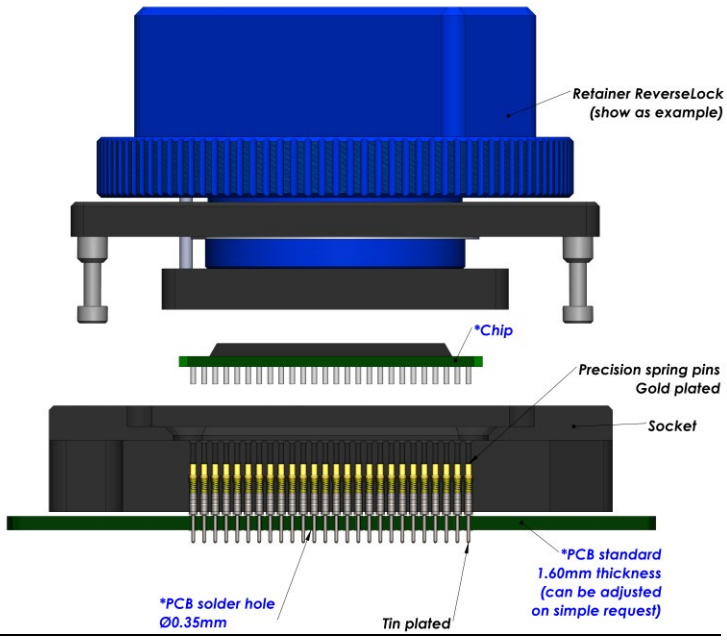
RoHS compliant

Through-hole (THT) soldering Test Socket

For CGA / PGA / PGI Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0570			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

CU # #### -0570 - ###### 95 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT

Plating
- **95:** Tin / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

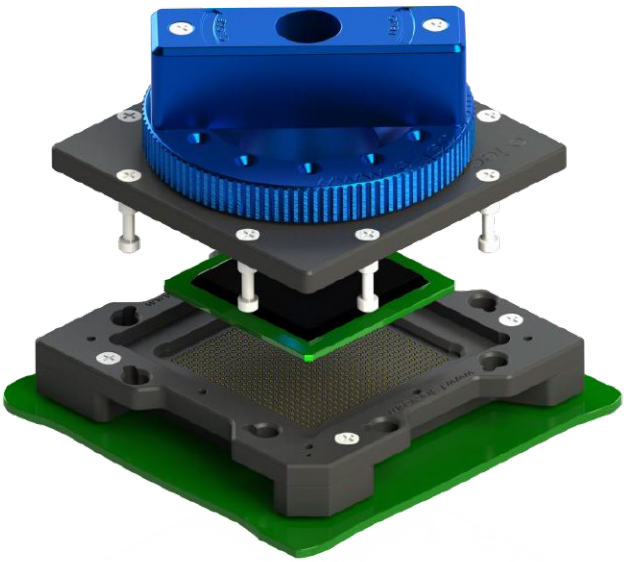
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

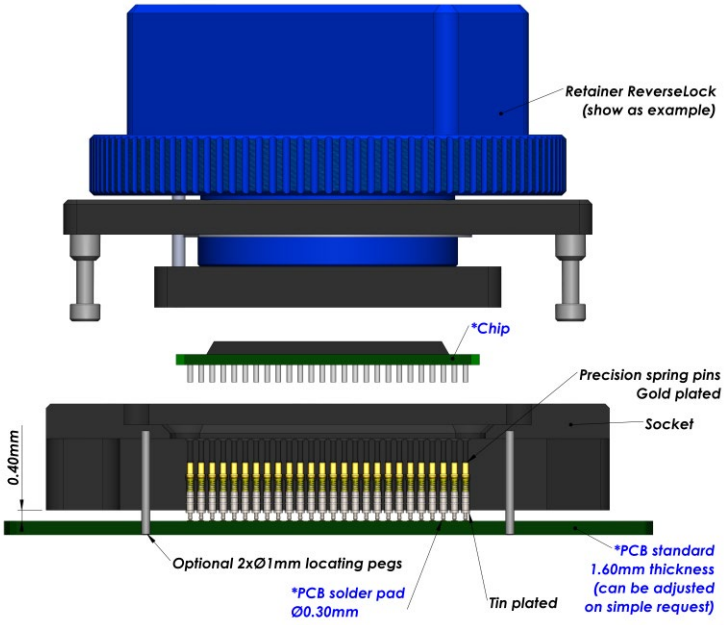
RoHS compliant

Standard SMT soldering Test Socket

For CGA / PGA / PGI Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0530			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

CU # ####-0530-######95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.40 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

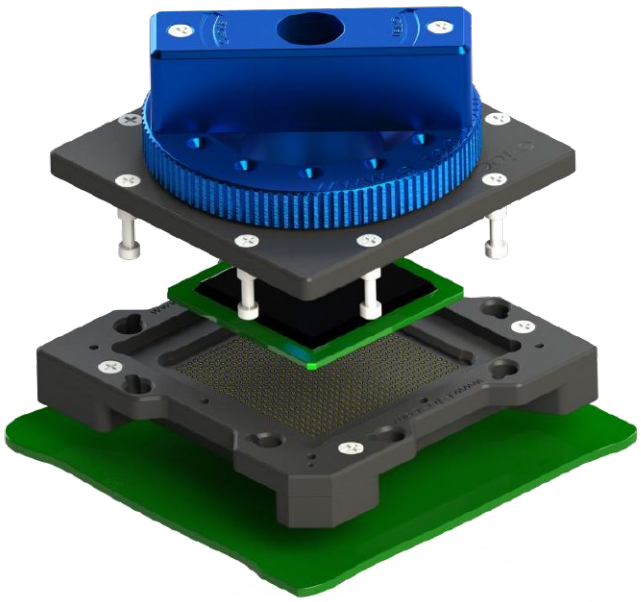
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

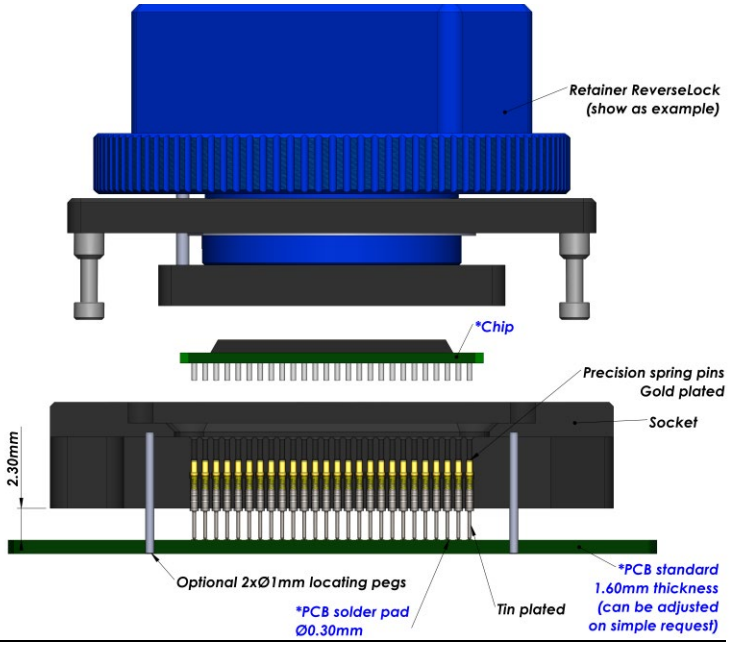
RoHS compliant

Raised SMT soldering Test Socket

For CGA / PGA / PGI Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0529			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

CU # #### -0529 - ###### 95A #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
29 : Raised SMT – Dimension A = 2.30 mm

Plating
95A: Tin/Gold + Alignment plate
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

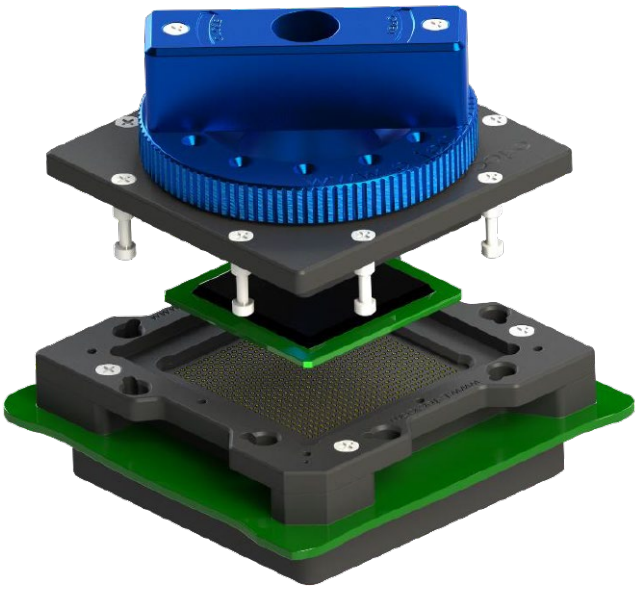
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

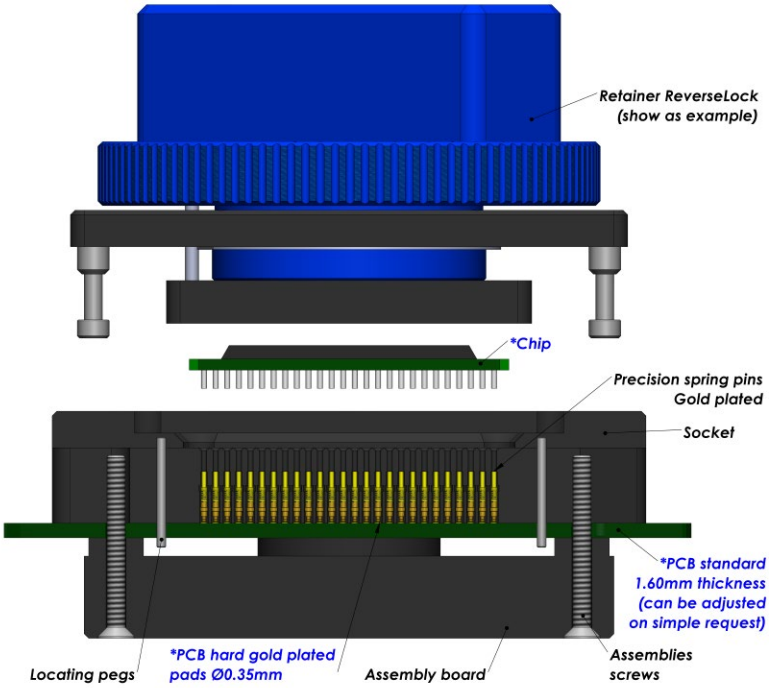
RoHS compliant

Probe Pin Solderless Compression Test Socket

For CGA / PGA / PGI Package

0.50 mm pitch (from 0.50 mm to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0590**	**0591**	**0592**	**0593**	**0594**	**0598**
Application	Standard	Long live	High Frequency	High Temp & Long live	High Power	SuperHigh Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	7 GHz	29 GHz	8.9 GHz	9 GHz	40 GHz
Contact resistance	<100 mOhm	40 mOhm	100 mOhm	80 mOhm	80 mOhm	100 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Crown tip	Crown tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring
Force	30 gr	23 gr	20 gr	23 gr	30 gr	20 gr
Current rating	1.5 A	1 A	1.5 A	2 A	2 A	0.5 A
Capacitance pF	<1 pF	0.45 pF	0.48 pF	0.71 pF	na	0.36 pF
Inductance nH	<2 nH	1.08 nH	0.89 nH	0.67 nH	na	1.19 nH
Impedance Ohms	38 Ω	39 Ω	38 Ω	55 Ω	60 Ω	62 Ω
Temperature range	-55°C to +150°C	-50°C to +150°C	-40°C to +120°C	-50°C to +220°C	-50°C to +220°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	500 K	500 K	100 K

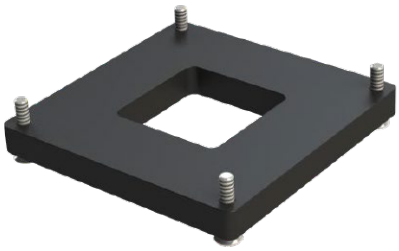
More on the next page

RoHS compliant

Standard assembly boards

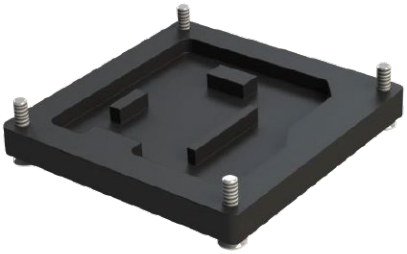
Small Chip size

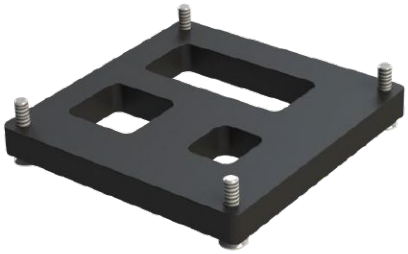
Medium Chip size



Large Chip size

Custom assembly boards





How to order

CU # # # # # -059 # # - # # # # # # # 55L # #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

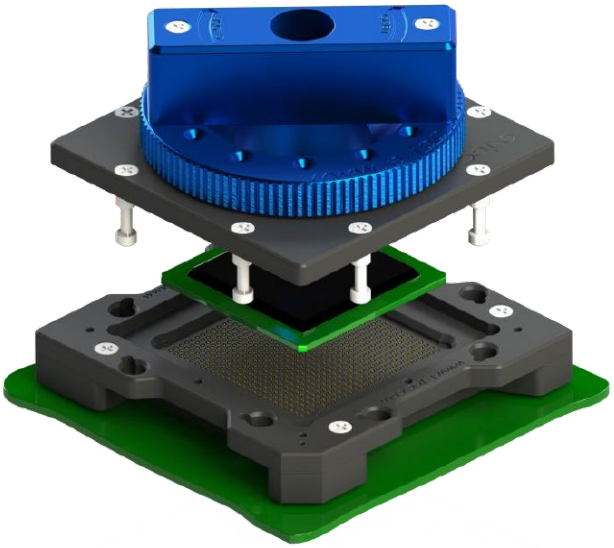
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

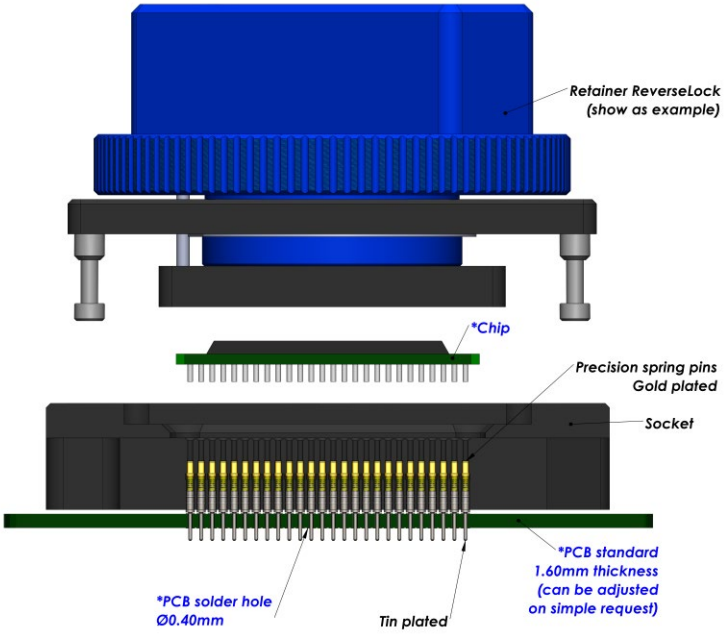
RoHS compliant

Through-hole (THT) soldering Test Socket

For CGA / PGA / PGI Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0870			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

CU # #### -087# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

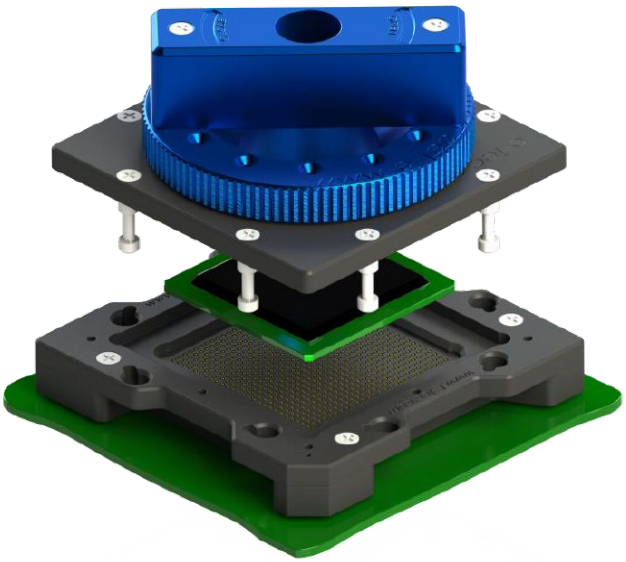
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

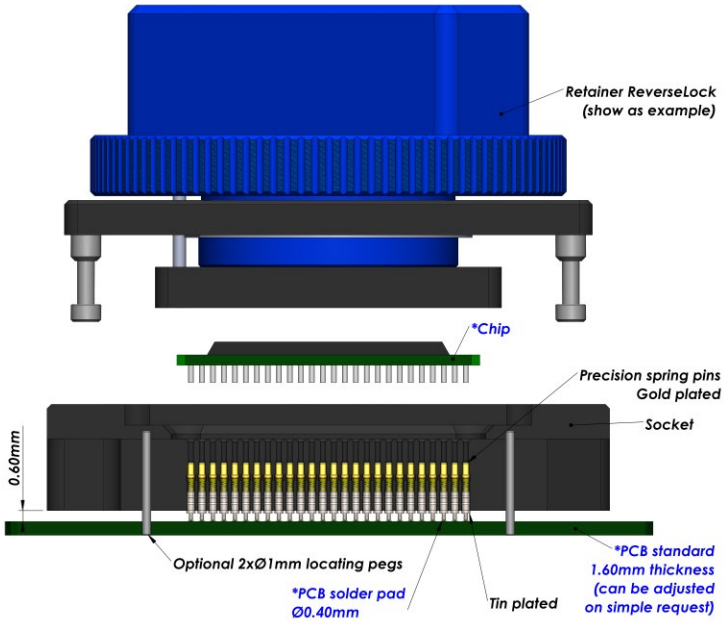
RoHS compliant

Standard SMT soldering Test Socket

For CGA / PGA / PGI Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0830			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.6(4.4) GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

CU # ####-0830 - ######95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.60 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

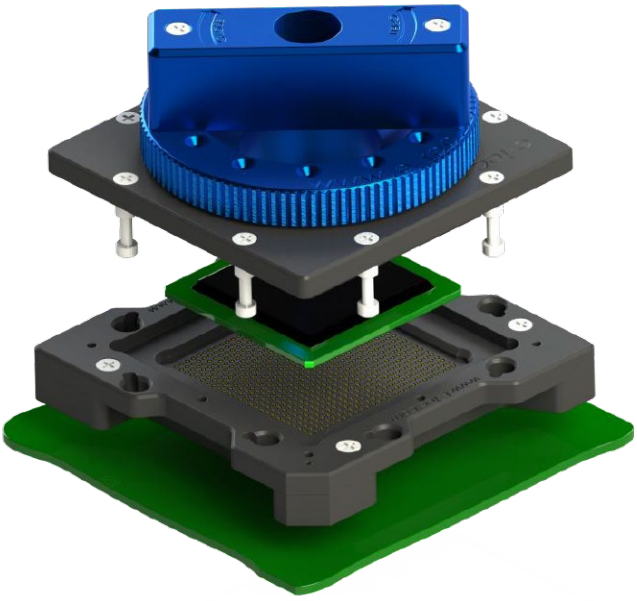
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

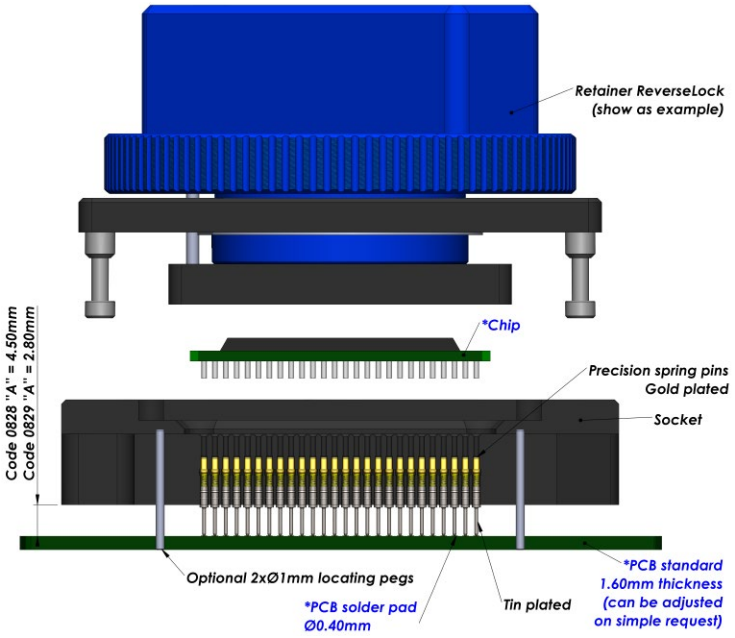
RoHS compliant

Raised SMT soldering Test Socket

For CGA / PGA / PGI Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0829 & 0828			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

CU # #### -082# - ###### 95A #

Shape of tip

U : Concave

Options:

P : Pointed

Nbr of contacts

Depends on ballcount of chip

Contact type

29 : Raised SMT – Dimension A = 2.80 mm

28 : Special Raised SMT - Dim. A = 4.50 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)

D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)

W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

Grid code / Config. code

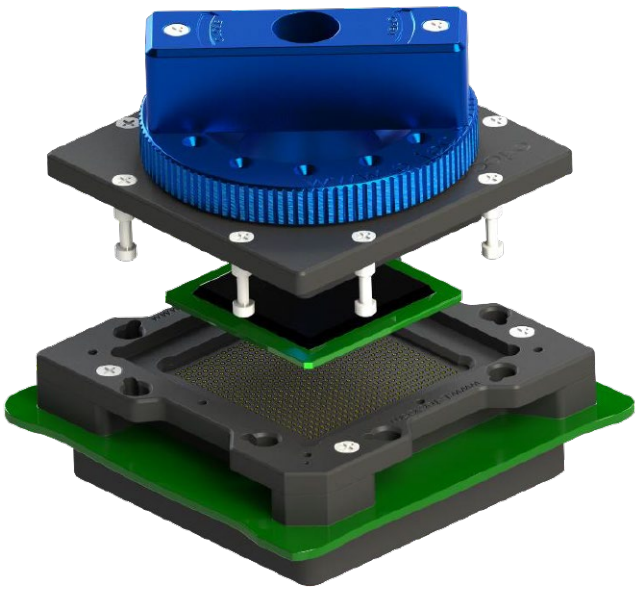
Will be given by the factory after receipt of the chip datasheet

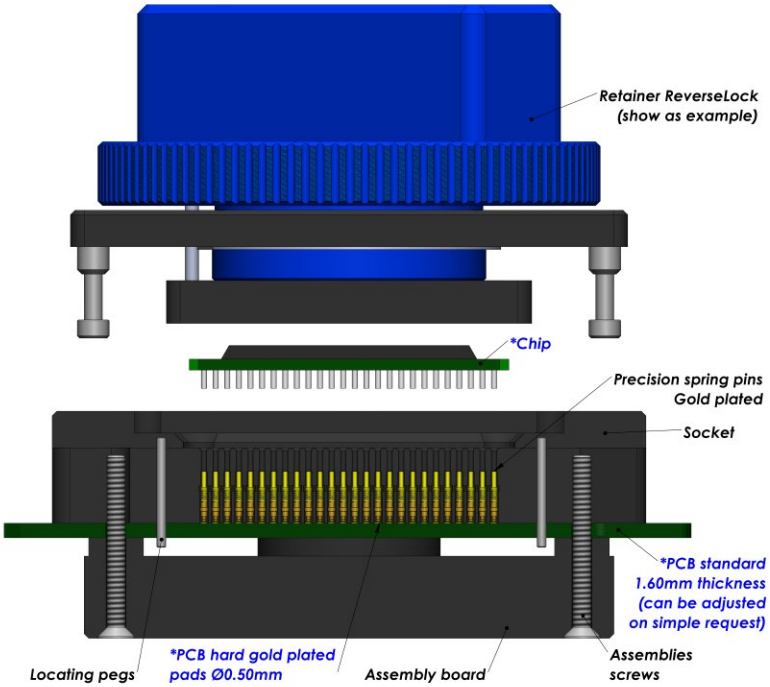
RoHS compliant

Probe Pin Solderless Compression Test Socket

For CGA / PGA / PGI Package

0.80 mm pitch (from 0.80 mm to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0890**	**0891**	**0893**	**0892**	**0894**	**0898**
Application	Standard	High Frequency	Low Contact Resistance	High Frequency	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3.4 GHz	36 GHz	7 GHz	31 GHz	14 GHz	31.7 GHz
Contact resistance	<100 mOhm	100 mOhm	40 mOhm	90 mOhm	90 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Single Point tip	Crown tip	Single Point tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Spring	Spring	Spring
Force	30 gr	33 gr	23 gr	20 gr	20 gr	25 gr
Current rating	1.8 A	1 A	1 A	0.5 A	0.5 A	2.6 A
Capacitance pF	<1 pF	0.47 pF	0.55 pF	0.37 pF	0.30 pF	0.60 pF
Inductance nH	<2 nH	0.93 nH	1.08 nH	1.67 nH	1.66 nH	1.38 nH
Impedance Ohms	40 Ω	38 Ω	39 Ω	73 Ω	78 Ω	44.8 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +150°C	-55°C to +150°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	100 K	100 K	100 K	100 K	100 K

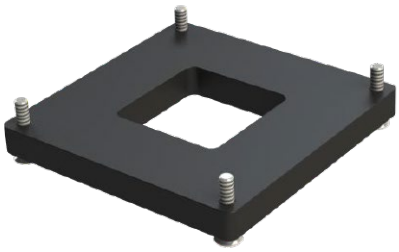
More on the next page

RoHS compliant

Standard assembly boards

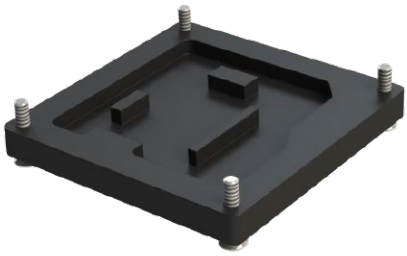
Small Chip size

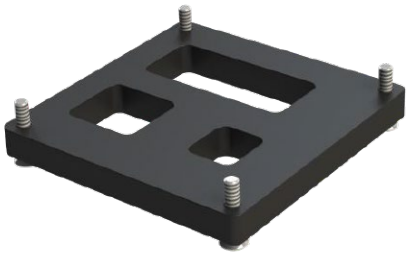
Medium Chip size



Large Chip size

Custom assembly boards





How to order

CU # ####-089#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

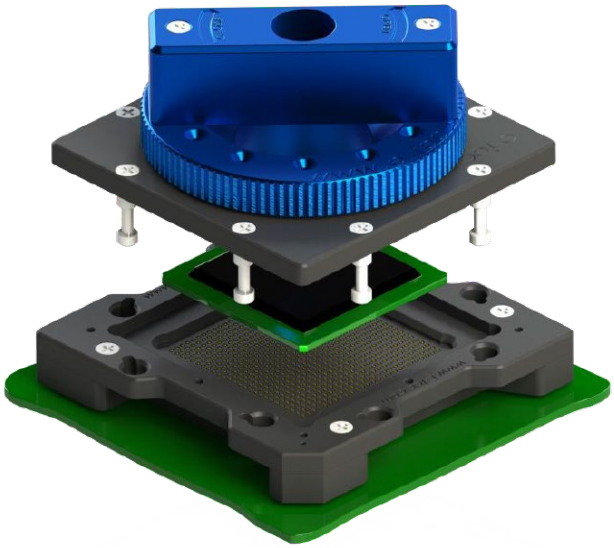
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

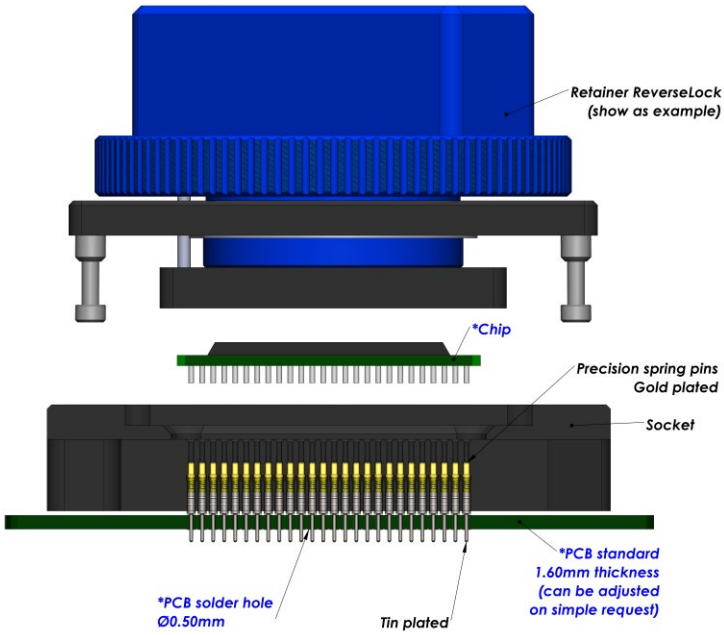
RoHS compliant

Through-hole (THT) soldering Test Socket

For CGA / PGA / PGI Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1070			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	1.03 pF
Contact resistance	<100mOhm	**Inductance nH**	1.80 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

CU # #### -107# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts

Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

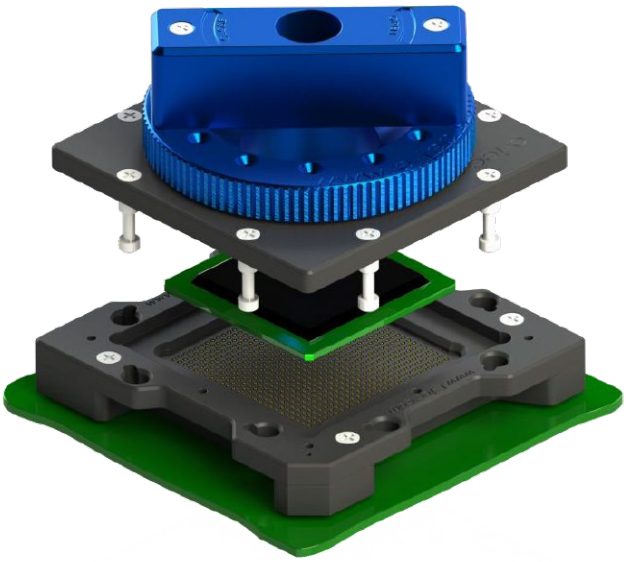
Will be given by the factory after receipt of the chip datasheet

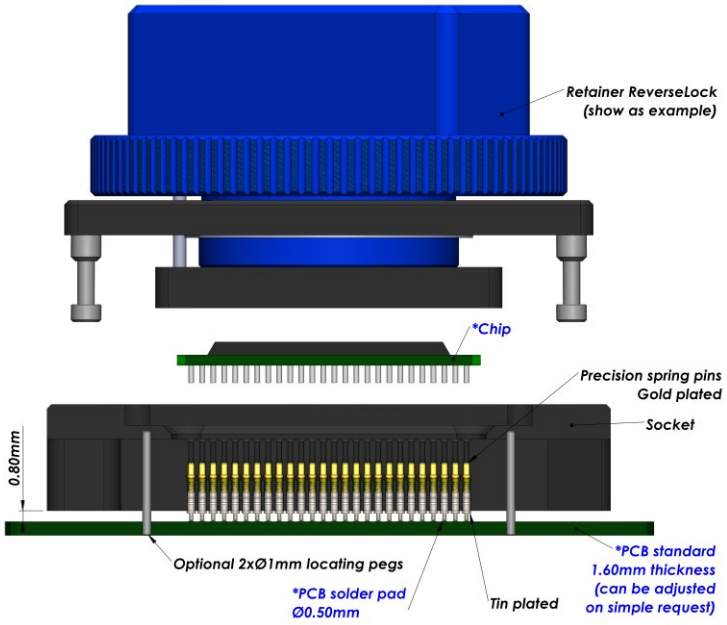
RoHS compliant

Standard SMT soldering Test Socket

For CGA / PGA / PGI Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1030			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.8(6.6) GHz	**Capacitance pF**	0.62 pF
Contact resistance	<100mOhm	**Inductance nH**	1.97 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

CU # ####-1030 - ######95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.80 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

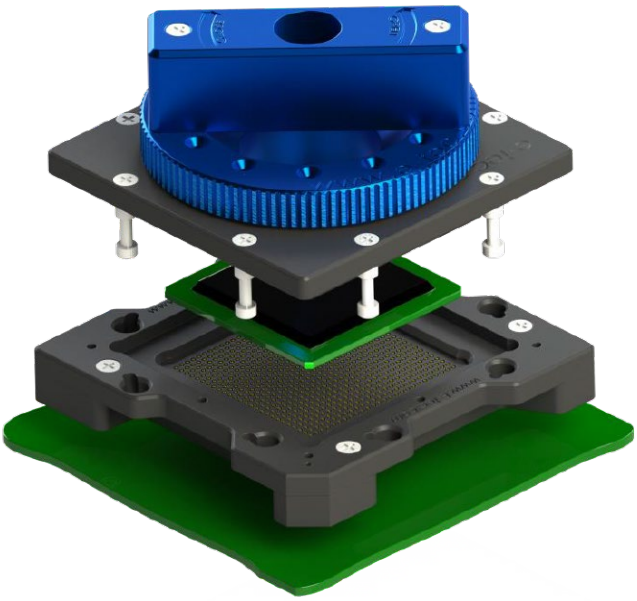
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

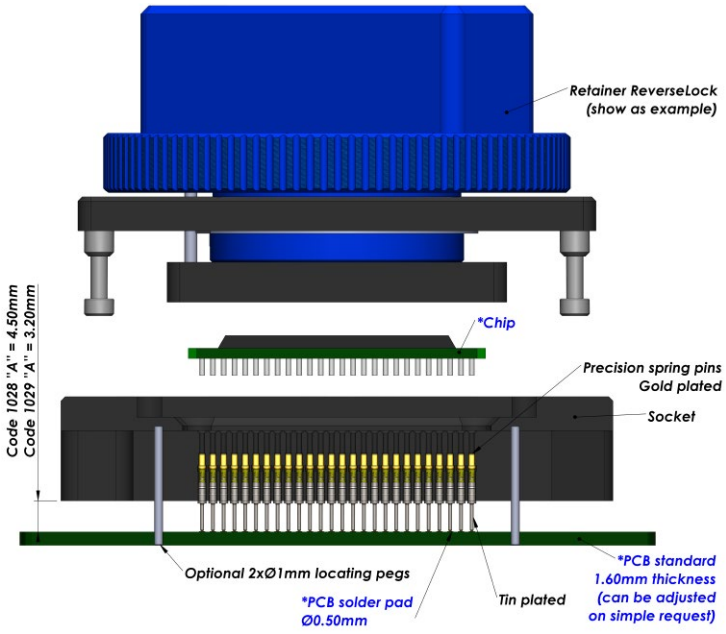
RoHS compliant

Raised SMT soldering Test Socket

For CGA / PGA / PGI Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1029 & 1028			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

CU # #### -102# - ###### 95A #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts

Depends on ballcount of chip

Contact type
- **29 :** Raised SMT – Dimension A = 3.20 mm
- **28 :** Special Raised SMT - Dim. A = 4.50 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

Grid code / Config. code

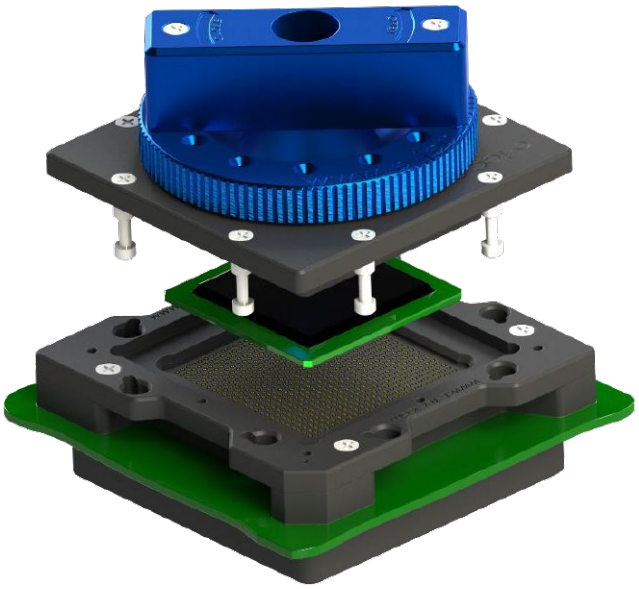
Will be given by the factory after receipt of the chip datasheet

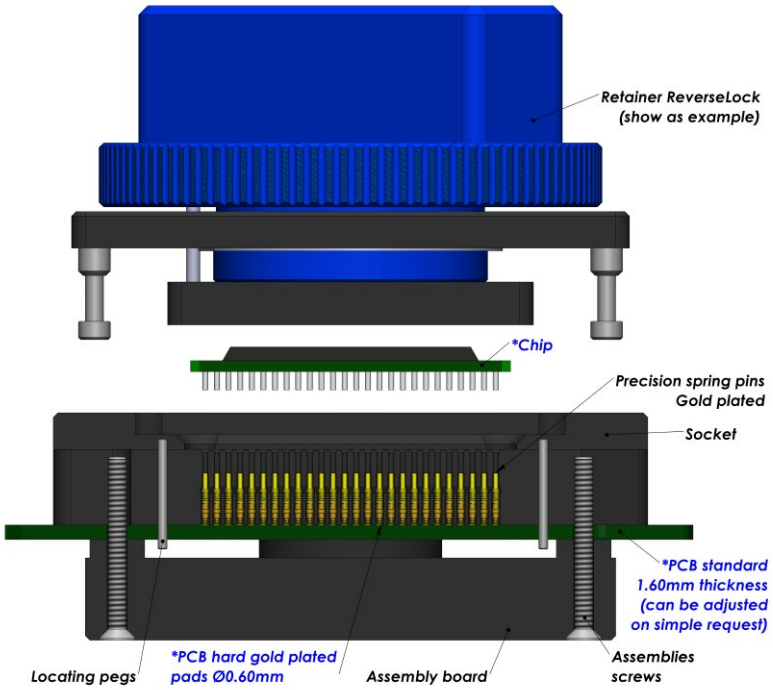
RoHS compliant

Probe Pin Solderless Compression Test Socket

For CGA / PGA / PGI Package

1.00 mm pitch (from 1.00 mm to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**1090**	**1091**	**1092**	**1093**	**1094**	**1098**
Application	Standard	Long Live	High Frequency	High Power	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	11 GHz	31 GHz	10 GHz	9.4 GHz	30.3 GHz
Contact resistance	<100 mOhm	45 mOhm	100 mOhm	30 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Round tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	33 gr	30 gr	25 gr	25 gr
Current rating	1.8 A	3 A	1 A	4 A	5 A	2.6 A
Capacitance pF	<1 pF	0.55 pF	0.39 pF	0.19 pF	0.85 pF	0.54 pF
Inductance nH	<2 nH	0.76 nH	1.01 nH	0.93 nH	1.36 nH	1.70 nH
Impedance Ohms	45 Ω	36 Ω	46 Ω	38 Ω	35 Ω	59.9 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +120°C	-55°C to +180°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	125 K	100 K	100 K

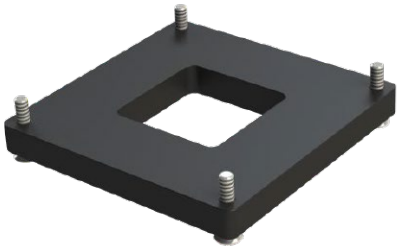
More on the next page

RoHS compliant

Standard assembly boards

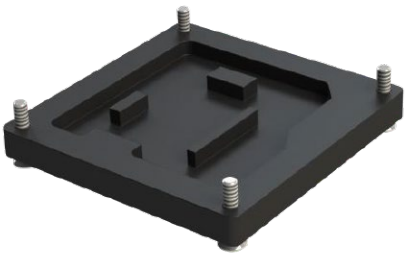
Small Chip size

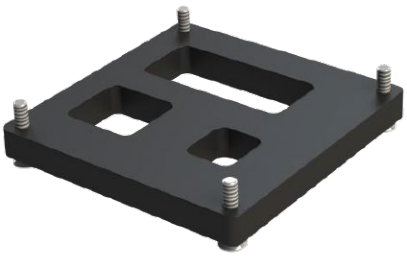
Medium Chip size



Large Chip size

Custom assembly boards





How to order

CU # # # # # -109 # - # # # # # # # 55L # #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

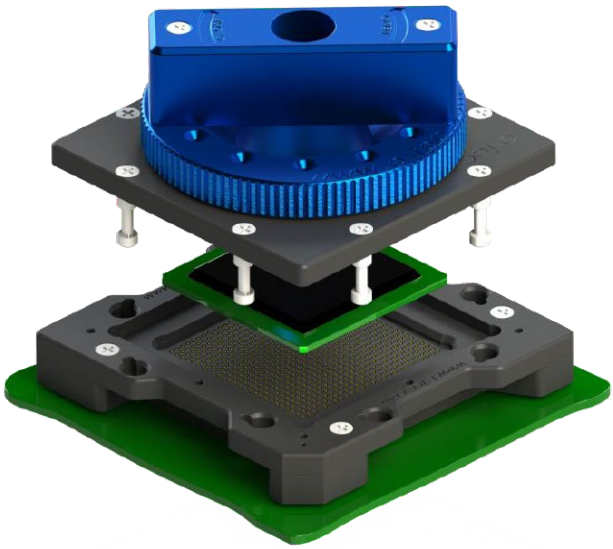
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

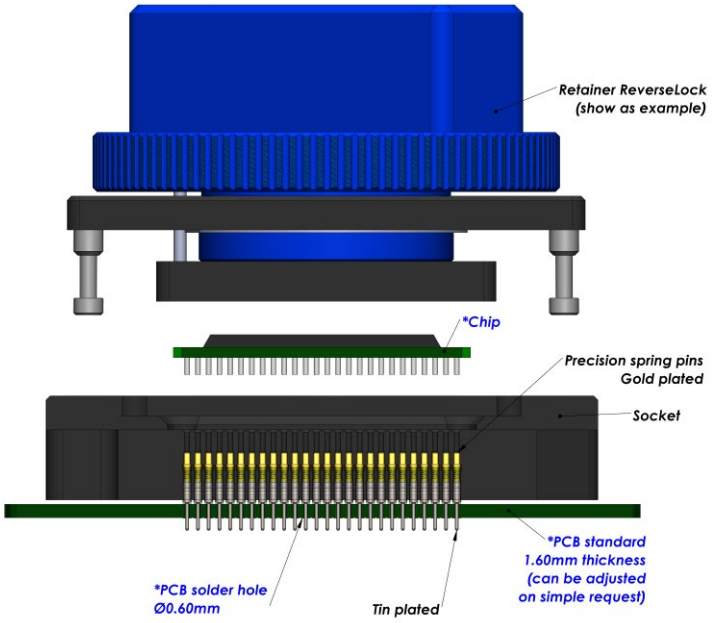
RoHS compliant

Through-hole (THT) soldering Test Socket

For CGA / PGA / PGI Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1270			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

CU # #### -127# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **C :** Converter plate
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **W:** TwistLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **S :** ScrewLock
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell
- **R :** ReverseLock
- **T :** SlimLock

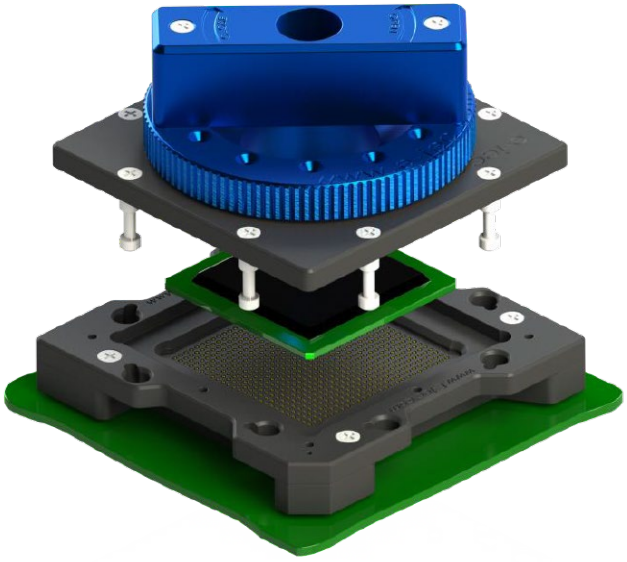
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

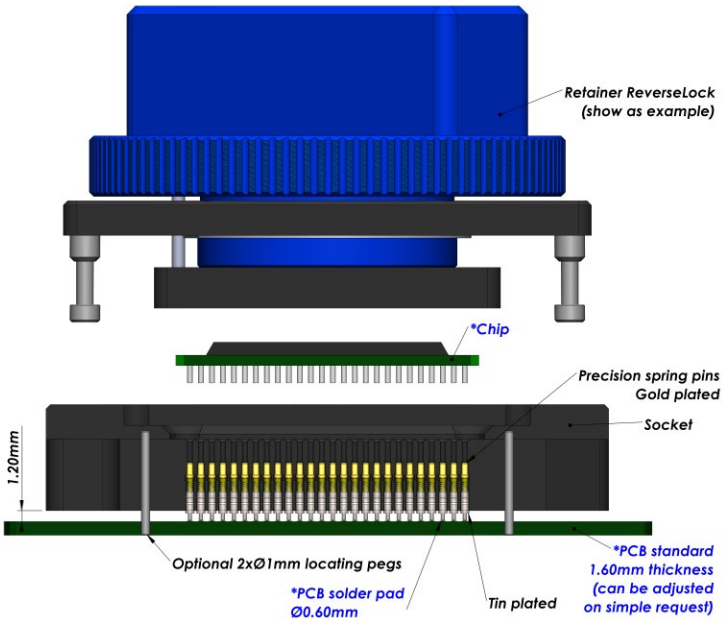
RoHS compliant

Standard SMT soldering Test Socket

For CGA / PGA / PGI Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1230			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

CU # ####-1230-######95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 1.20 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

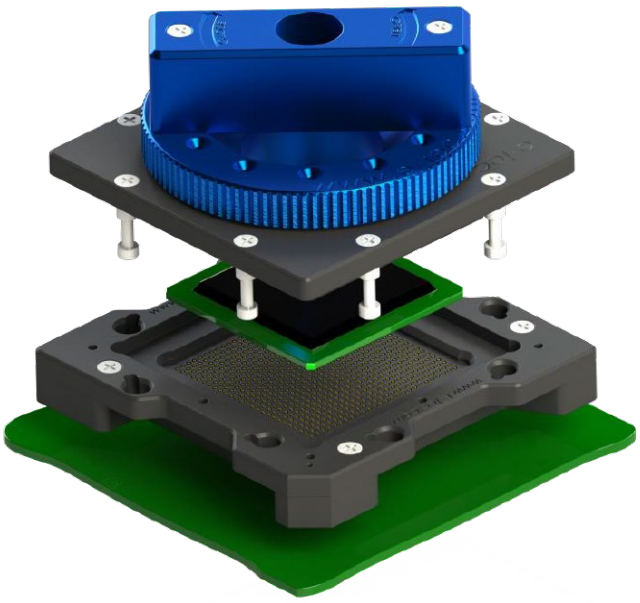
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

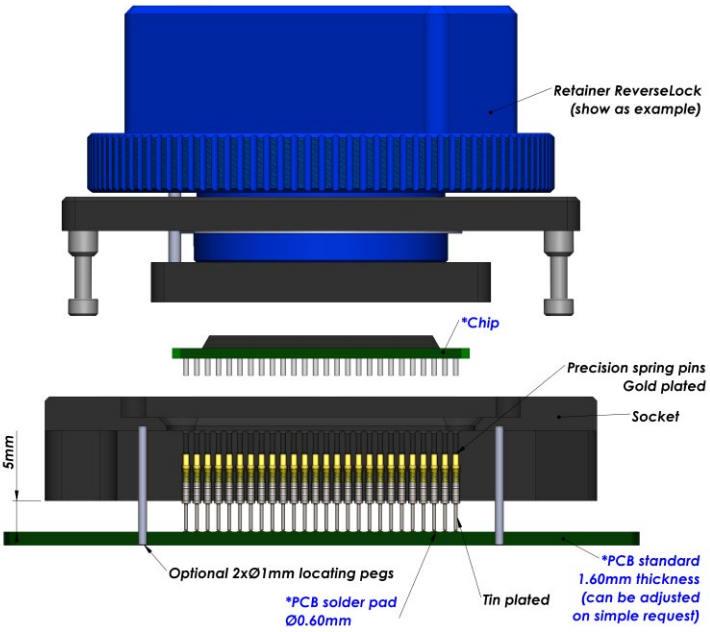
RoHS compliant

Raised SMT soldering Test Socket

For CGA / PGA / PGI Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1229			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

CU # ####-1229-######95A #

Shape of tip

U : Concave

Options:

P : Pointed

Nbr of contacts

Depends on ballcount of chip

Contact type

29 : Raised SMT – Dimension A = 5.00 mm

Plating

95A: Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)

D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)

W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

Grid code / Config. code

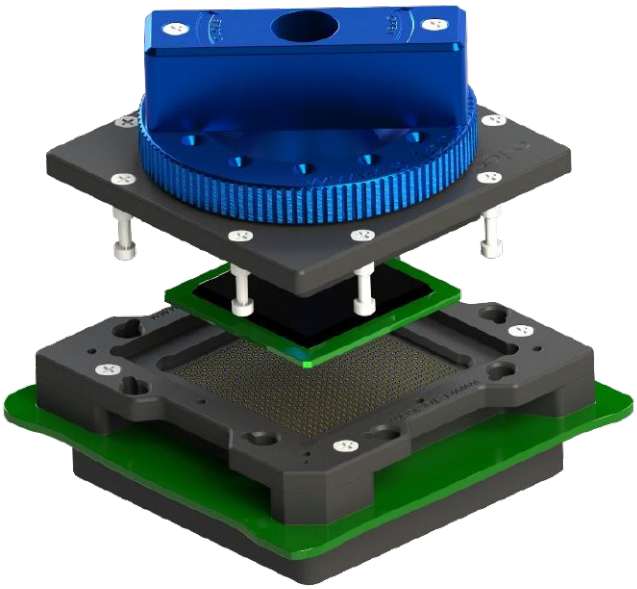
Will be given by the factory after receipt of the chip datasheet

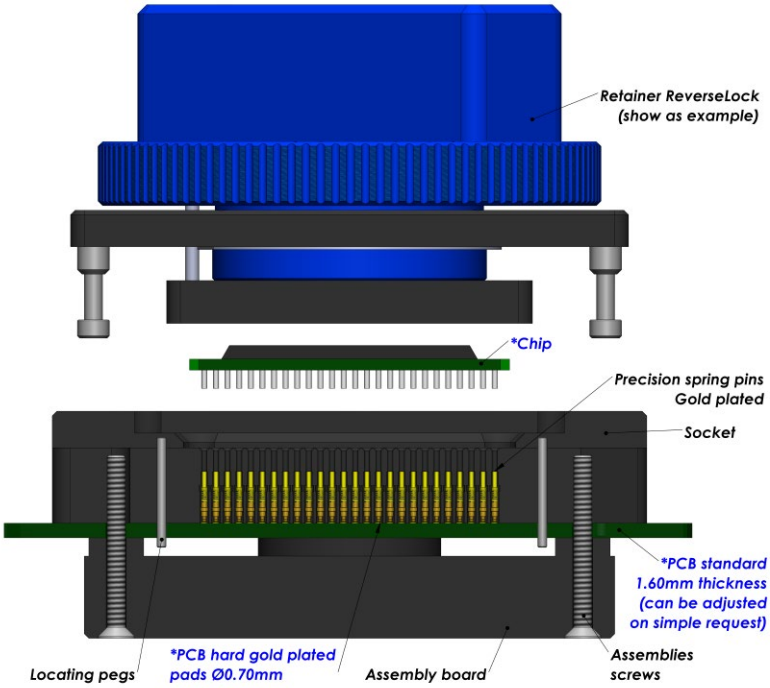
RoHS compliant

Probe Pin Solderless Compression Test Socket

For CGA / PGA / PGI Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**1290**	**1291**	**1294**	**1298**
Application	Standard	High Frequency + Long Live	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	37.5 GHz	13.3 GHz	23.7 GHz
Contact resistance	<100 mOhm	45 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	25 gr	25 gr
Current rating	2.2 A	3 A	5 A	2.6 A
Capacitance pF	<1 pF	0.43 pF	0.76 pF	0.50 pF
Inductance nH	<2 nH	0.82 nH	1.73 nH	2.03 nH
Impedance Ohms	48 Ω	41 Ω	42.8 Ω	67.5 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	100 K

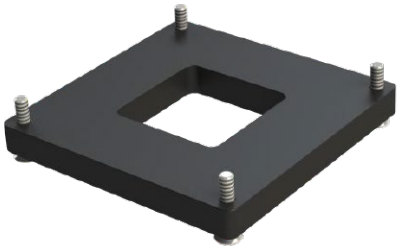
More on the next page

RoHS compliant

Standard assembly boards

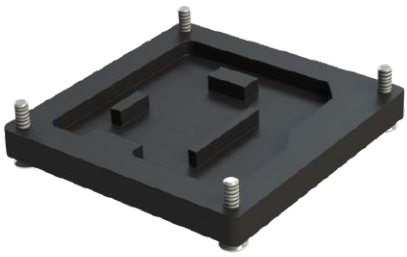
Small Chip size

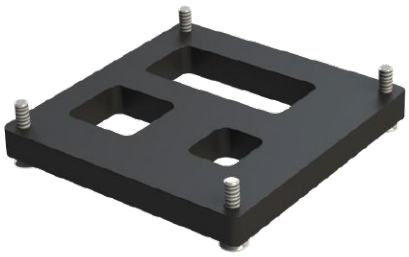
Medium Chip size



Large Chip size

Custom assembly boards





How to order

CU # ####-129#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
C : Converter plate
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
W: TwistLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
S : ScrewLock
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell
R : ReverseLock
T : SlimLock

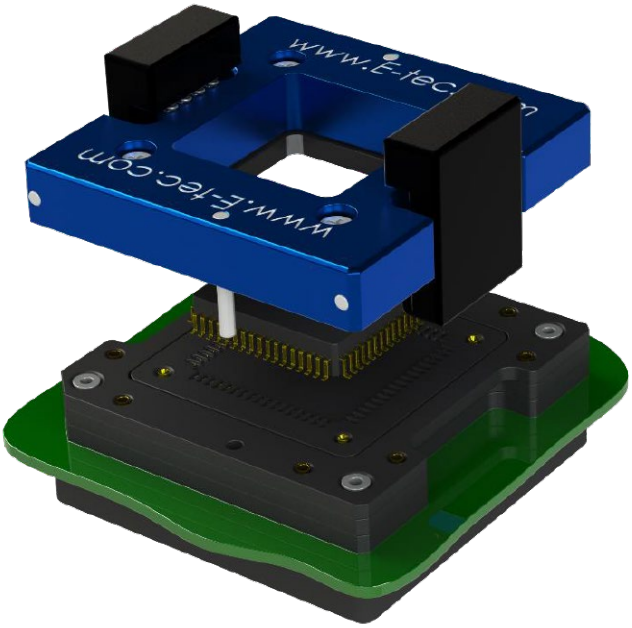
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

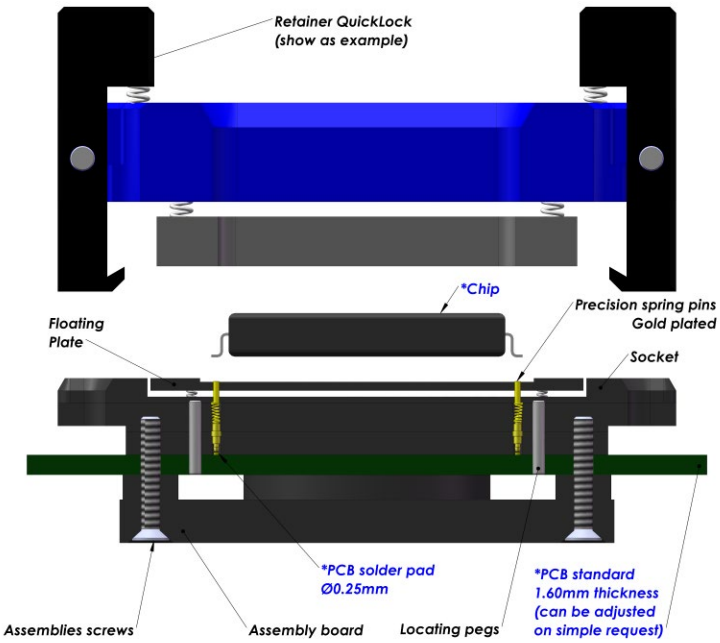
RoHS compliant

Probe Pin Solderless Compression Test Socket

For SOP / DSO / SOIC / QFP / xQFP Package

0.40 mm pitch (from 0.40 mm to 0.49 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**0490**	**0491**	**0492**	**0494**
Application	Standard	Frequency	High Frequency	High Power
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	10 GHz	20 GHz	na
Contact resistance	<100 mOhm	100 mOhm	100 mOhm	100 mOhm
Chip contact tip shape	Single Point tip	Single Point tip	Single Point tip	Crown tip
PCB tip shape	Spring	Single Point tip	Single Point tip	Single Point tip
Force	20 gr	20 gr	20 gr	30 gr
Current rating	0.5 A	1.5 A	1.5 A	3 A
Capacitance pF	<1pF	0.90 pF	0.50 pF	na
Inductance nH	<2nH	1.50 nH	1.20 nH	na
Impedance Ohms	45 Ω	48 Ω	42 Ω	na
Temperature range	-55°C to +150°C	-40°C to +120°C	-40°C to +120°C	-40°C to +120°C
Mating cycles	100 K	300 K	100 K	100 K

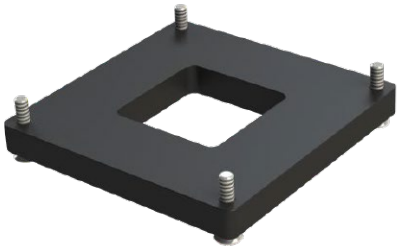
More on the next page

RoHS compliant

Standard assembly boards

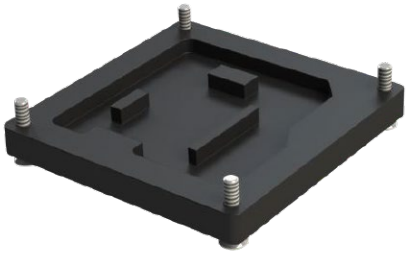
Small Chip size

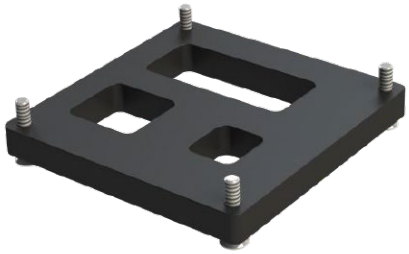
Medium Chip size



Large Chip size

Custom assembly boards





How to order

QU # ####-049#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 94 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

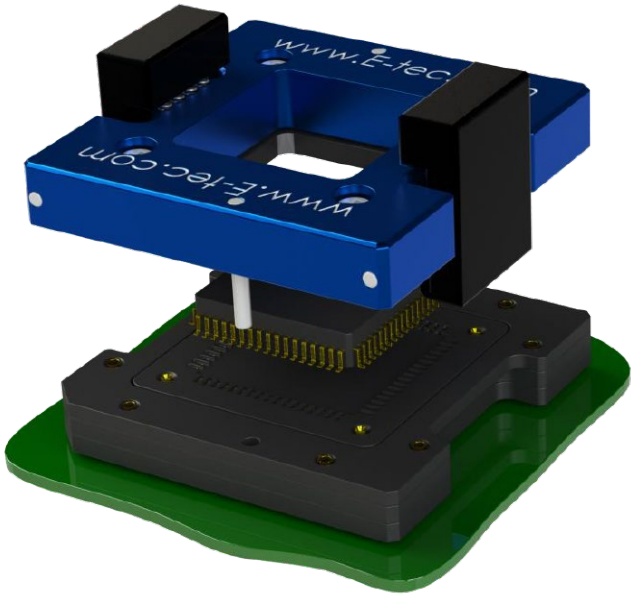
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

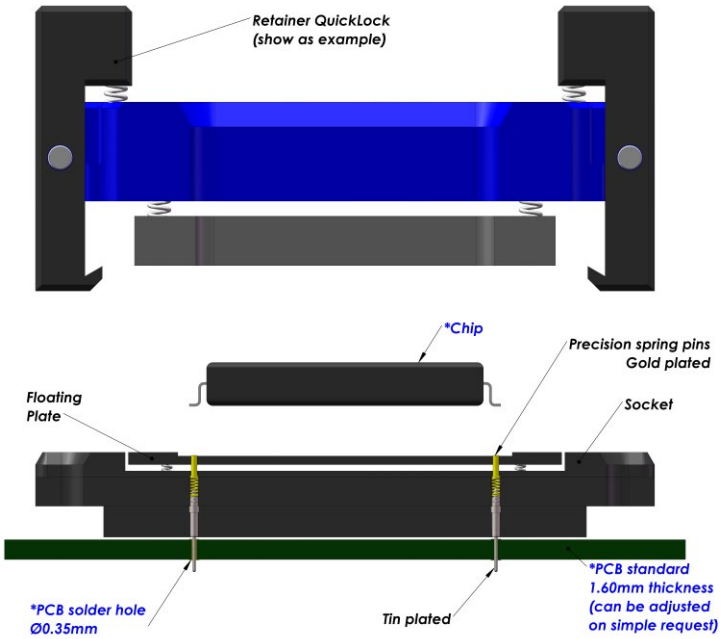
RoHS compliant

Through-hole (THT) soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0570			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

QU # ####-0570 - ###### 95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
70 : Standard THT

Plating
95: Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
L : Locating pegs
A : Alignment plate
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

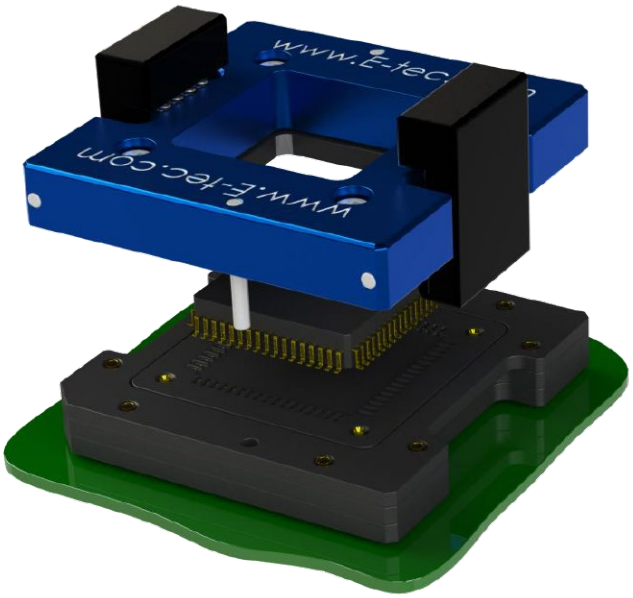
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

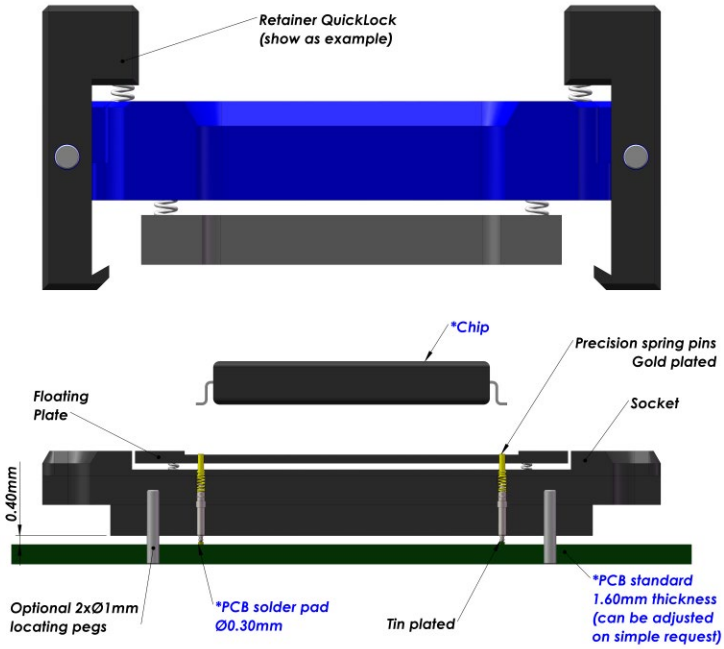
RoHS compliant

Standard SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0530			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	2.7 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

QU # ####-0530 - ###### 95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.40 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
T : Torque tool fixture
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

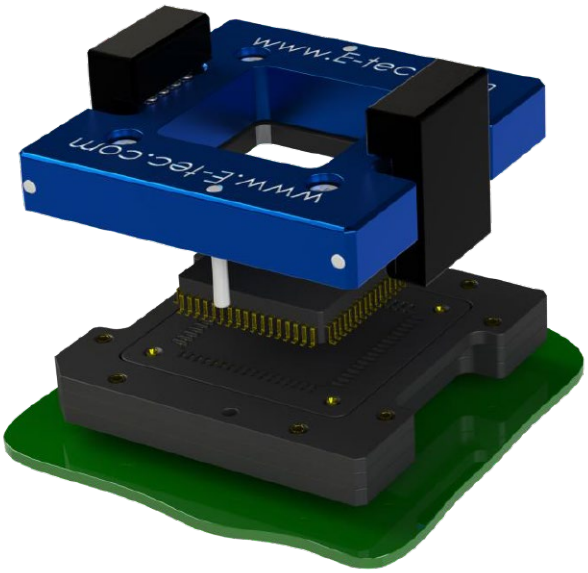
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

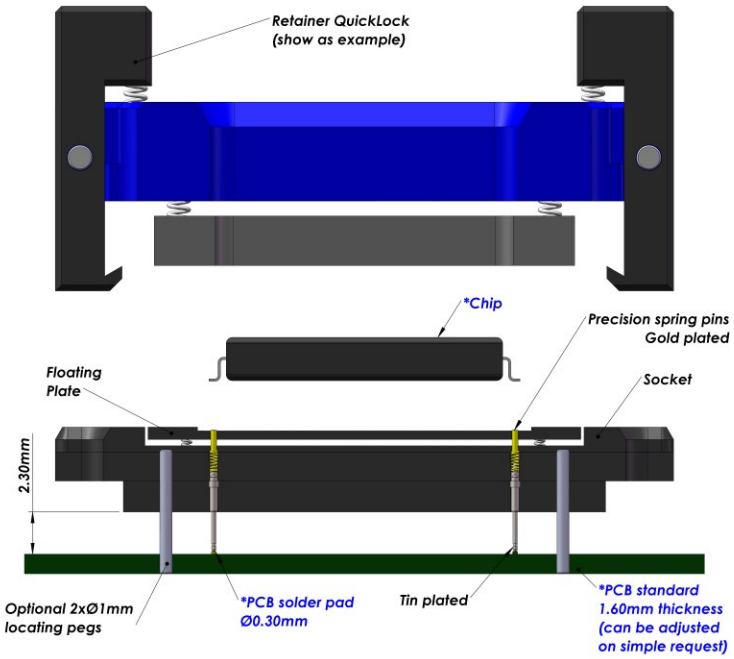
RoHS compliant

Raised SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP, Flatpack Package

0.50 mm pitch (from 0.50 mm up to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0529			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

QU # #### -0529 - ###### 95A #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
29 : Raised SMT – Dimension A = 2.30 mm

Plating
95A: Tin/Gold + Alignment plate
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

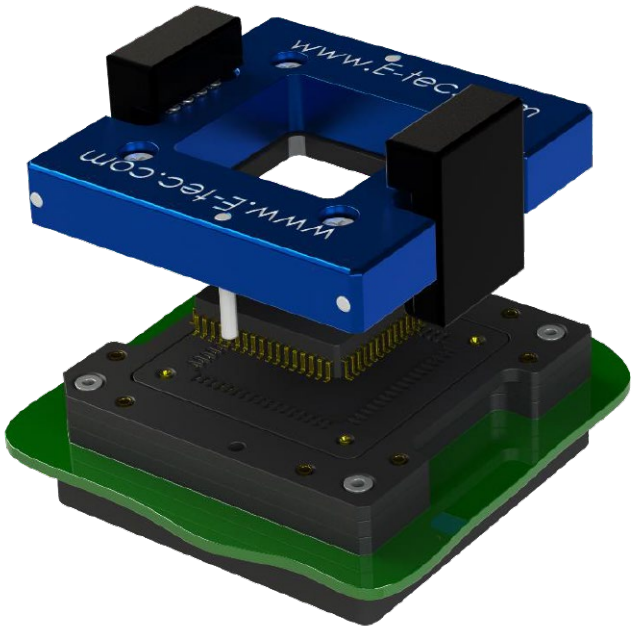
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

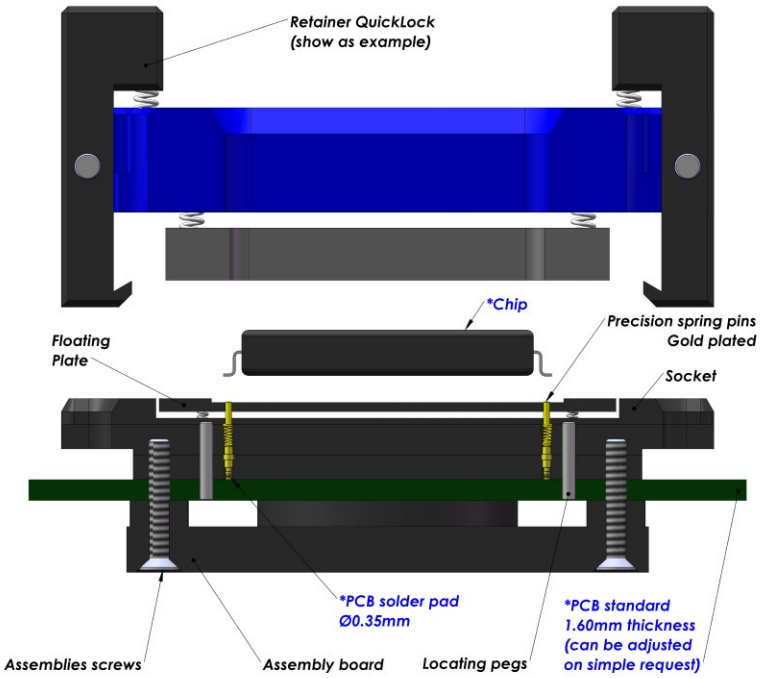
RoHS compliant

Probe Pin Solderless Compression Test Socket

For SOP / DSO / SOIC / QFP / xQFP Package

0.50 mm pitch (from 0.50 mm to 0.79 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0590**	**0591**	**0592**	**0593**	**0594**	**0598**
Application	Standard	Long live	High Frequency	High Temp & Long live	High Power	SuperHigh Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	7 GHz	29 GHz	8.9 GHz	9 GHz	40 GHz
Contact resistance	<100 mOhm	40 mOhm	100 mOhm	80 mOhm	80 mOhm	100 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Crown tip	Crown tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring
Force	30 gr	23 gr	20 gr	23 gr	30 gr	20 gr
Current rating	1.5 A	1 A	1.5 A	2 A	2 A	0.5 A
Capacitance pF	<1 pF	0.45 pF	0.48 pF	0.71 pF	na	0.36 pF
Inductance nH	<2 nH	1.08 nH	0.89 nH	0.67 nH	na	1.19 nH
Impedance Ohms	38 Ω	39 Ω	38 Ω	55 Ω	60 Ω	62 Ω
Temperature range	-55°C to +150°C	-50°C to +150°C	-40°C to +120°C	-50°C to +220°C	-50°C to +220°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	500 K	500 K	100 K

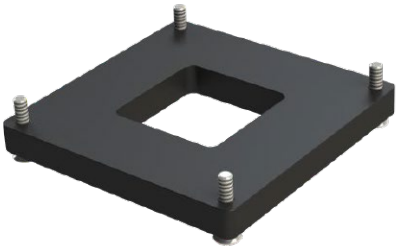
More on the next page

RoHS compliant

Standard assembly boards

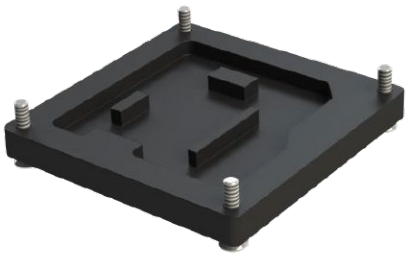
Small Chip size

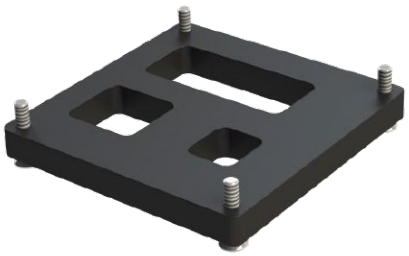
Medium Chip size



Large Chip size

Custom assembly boards





How to order

QU # ####-059#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

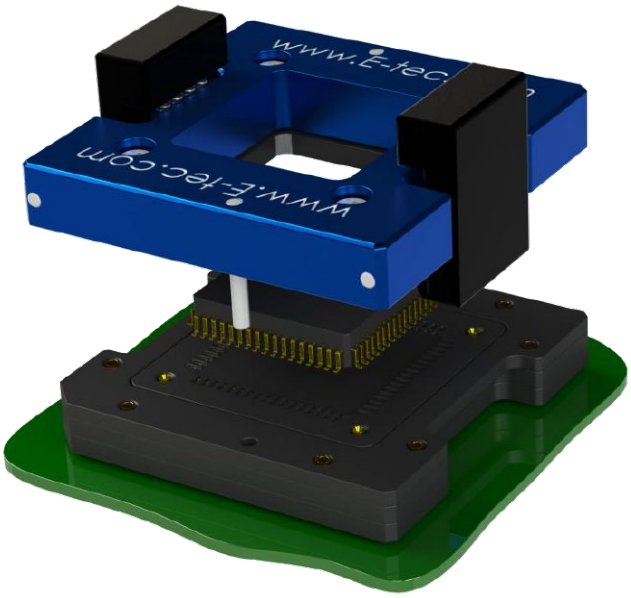
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

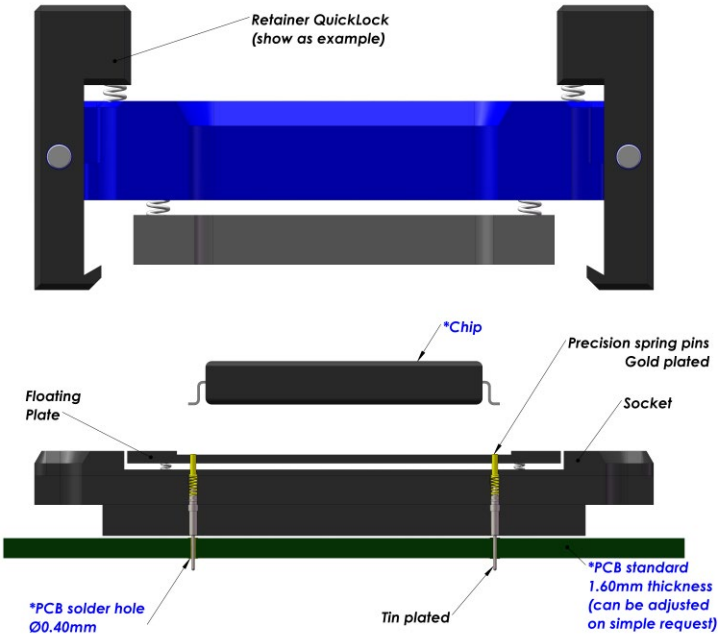
RoHS compliant

Through-hole (THT) soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 0870			
Application	Through-hole technology	**Force**	30 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

QU # #### -087# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts

Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **S :** ScrewLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell

Grid code / Config. code

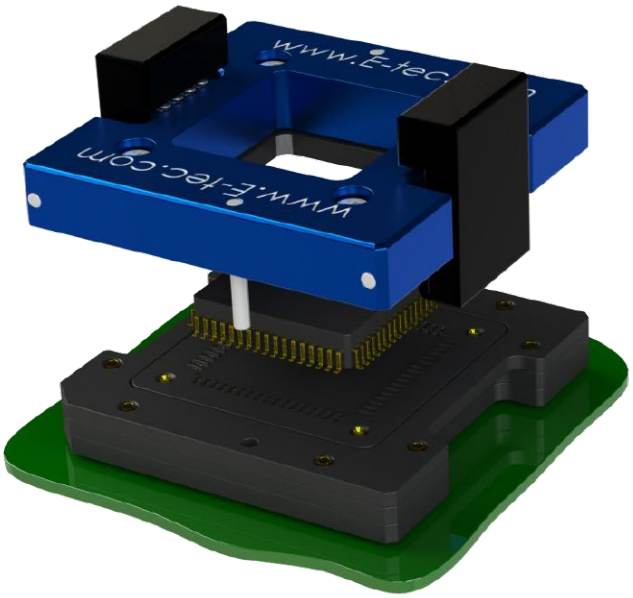
Will be given by the factory after receipt of the chip datasheet

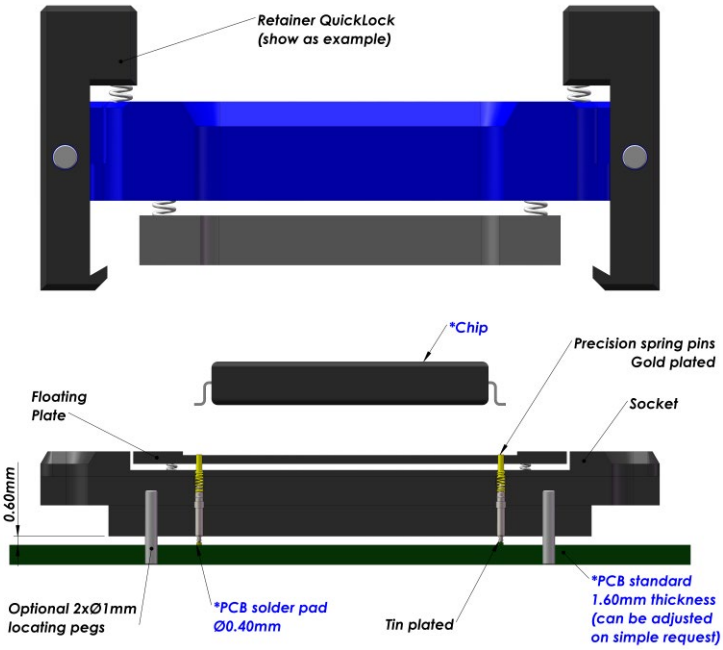
RoHS compliant

Standard SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0830			
Application	Surface mouting	**Force**	30 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.6(4.4) GHz	**Capacitance pF**	0.59 pF
Contact resistance	<100mOhm	**Inductance nH**	1.70 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

QU # ### # -0830 - # # # # # # 95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.60 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
T : Torque tool fixture
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

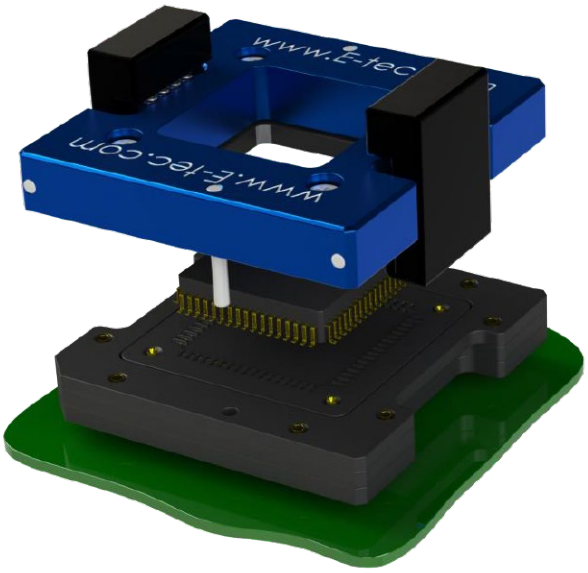
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

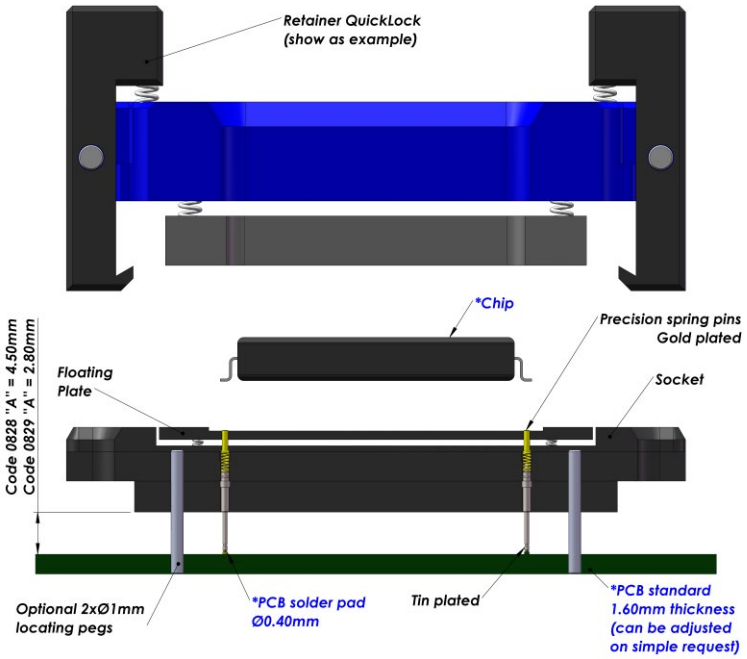
RoHS compliant

Raised SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP, Flatpack Package

0.80 mm pitch (from 0.80 mm up to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 0829 & 0828			
Application	Surface mouting	**Force**	30 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

QU # #### -082# - ###### 95A #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
- **29 :** Raised SMT – Dimension A = 2.80 mm
- **28 :** Special Raised SMT - Dim. A = 4.50 mm

Plating
- **95A:** Tin/Gold + Alignment plate

Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W :** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **S :** ScrewLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell

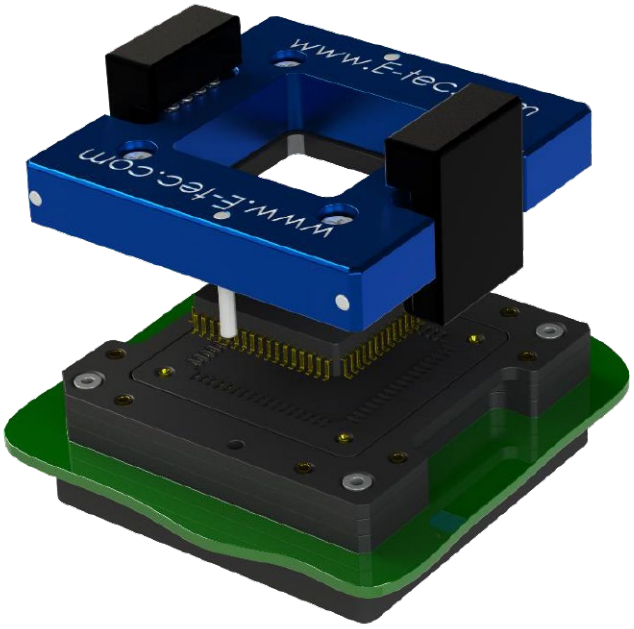
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

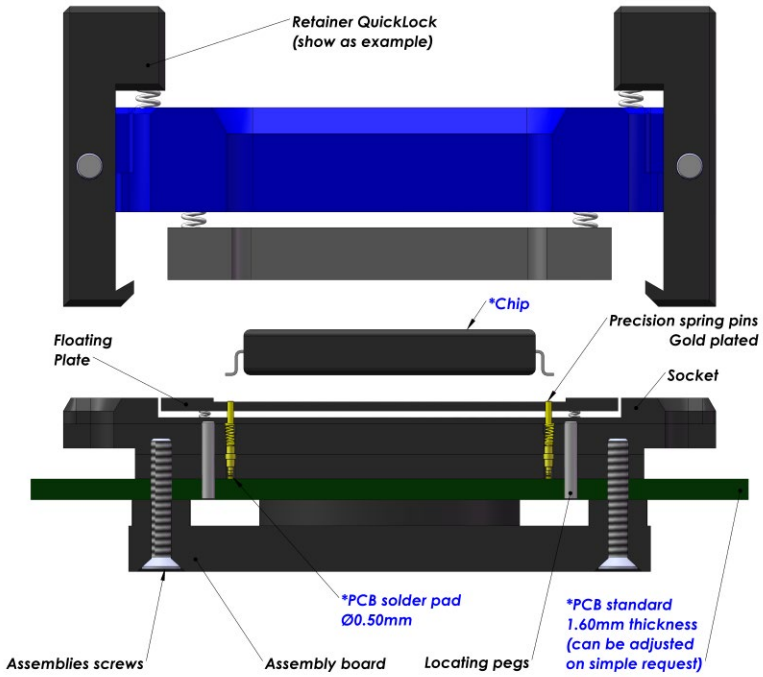
RoHS compliant

Probe Pin Solderless Compression Test Socket

For SOP / DSO / SOIC / QFP / xQFP Package

0.80 mm pitch (from 0.80 mm to 0.99 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**0890**	**0891**	**0893**	**0892**	**0894**	**0898**
Application	Standard	High Frequency	Low Contact Resistance	High Frequency	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3.4 GHz	36 GHz	7 GHz	31 GHz	14 GHz	31.7 GHz
Contact resistance	<100 mOhm	100 mOhm	40 mOhm	90 mOhm	90 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Single Point tip	Crown tip	Single Point tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Spring	Spring	Spring
Force	30 gr	33 gr	23 gr	20 gr	20 gr	25 gr
Current rating	1.8 A	1 A	1 A	0.5 A	0.5 A	2.6 A
Capacitance pF	<1 pF	0.47 pF	0.55 pF	0.37 pF	0.30 pF	0.60 pF
Inductance nH	<2 nH	0.93 nH	1.08 nH	1.67 nH	1.66 nH	1.38 nH
Impedance Ohms	40 Ω	38 Ω	39 Ω	73 Ω	78 Ω	44.8 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +150°C	-55°C to +150°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	100 K	100 K	100 K	100 K	100 K

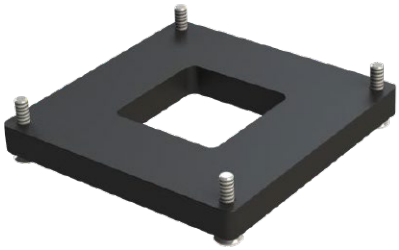
More on the next page

RoHS compliant

Standard assembly boards

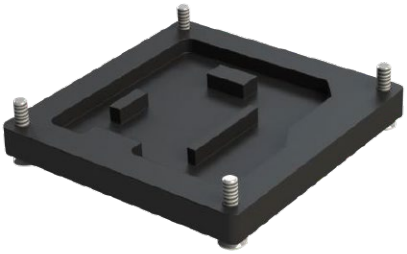
Small Chip size

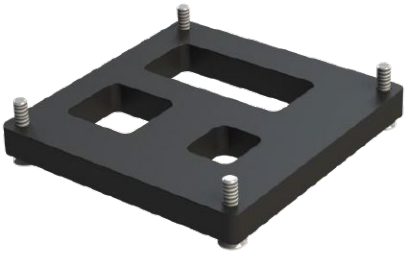
Medium Chip size



Large Chip size

Custom assembly boards





How to order

QU # ####-089#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M : Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

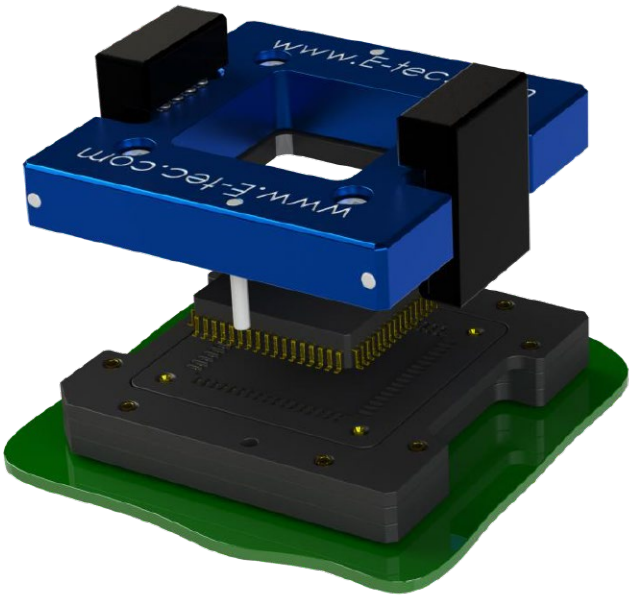
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

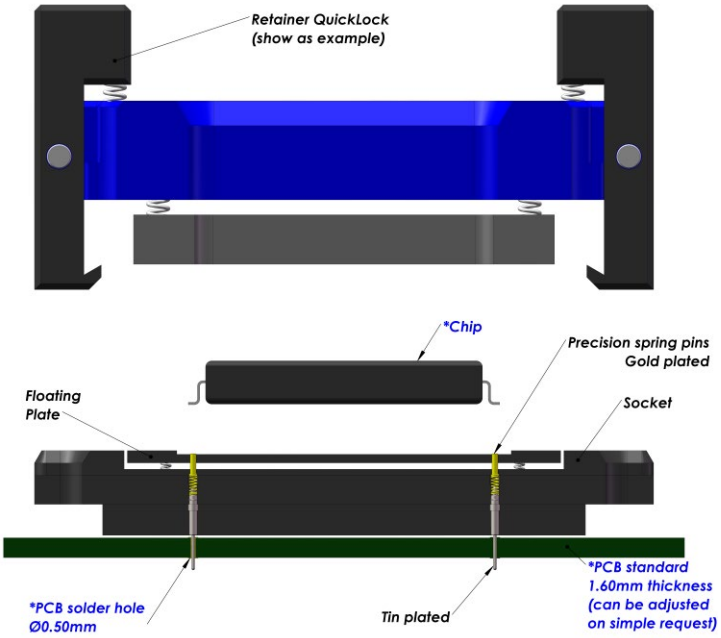
RoHS compliant

Through-hole (THT) soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1070			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	3.4 GHz	**Capacitance pF**	1.03 pF
Contact resistance	<100mOhm	**Inductance nH**	1.80 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

QU # ####-107# - ###### #5 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
70 : Standard THT
72 : Special THT to plug into MGS adapters

Plating
95: Tin / Gold
55: Gold / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
L : Locating pegs
A : Alignment plate
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

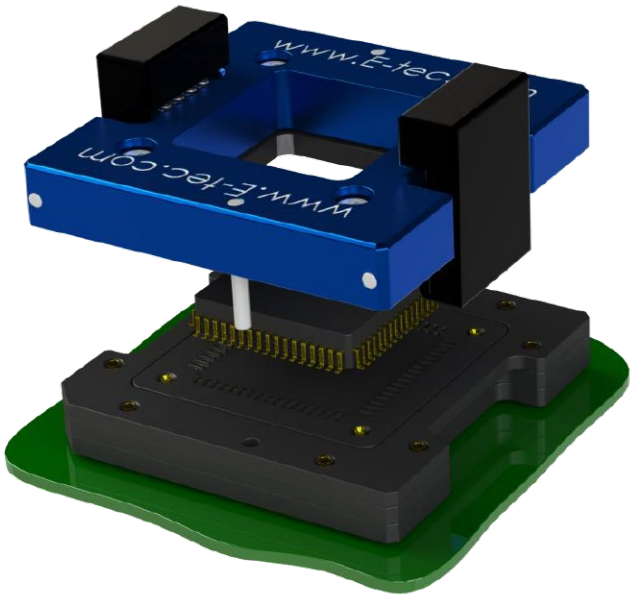
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

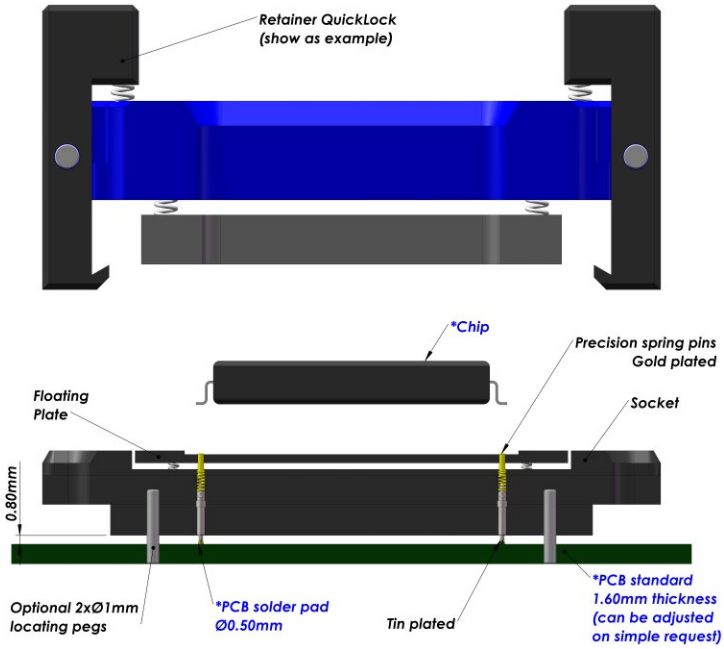
RoHS compliant

Standard SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1030			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	2.8(6.6) GHz	**Capacitance pF**	0.62 pF
Contact resistance	<100mOhm	**Inductance nH**	1.97 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

QU # ####-1030 - ######95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.80 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
T : Torque tool fixture
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

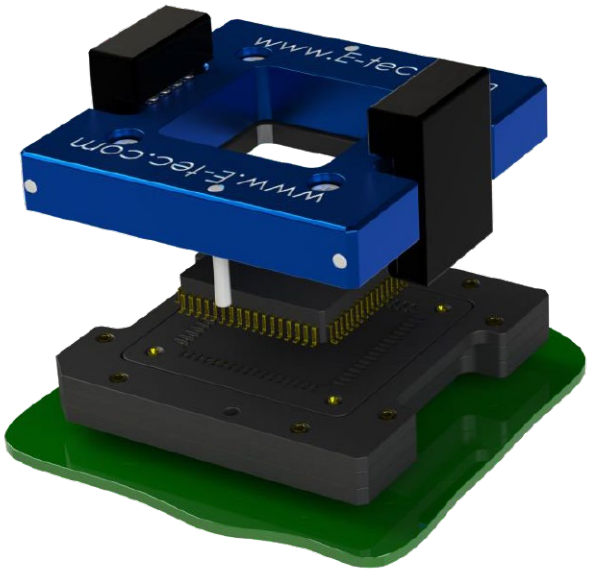
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

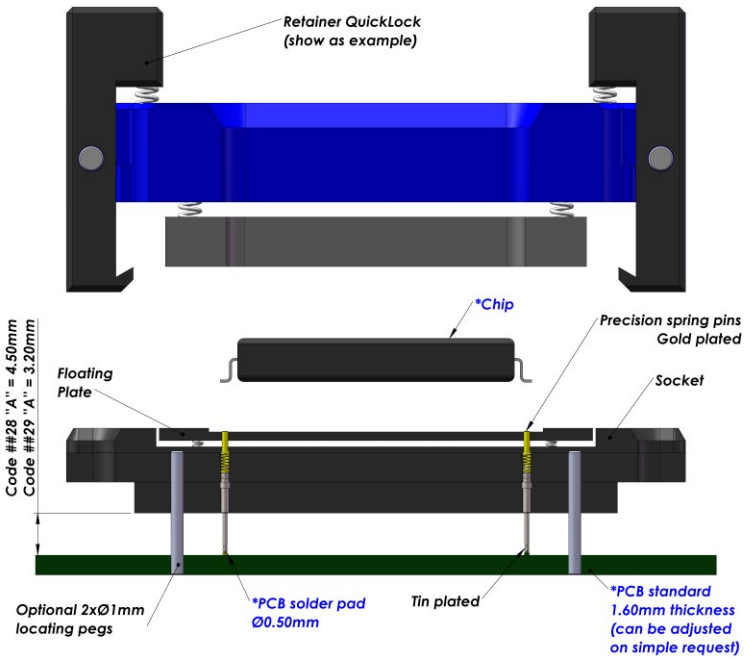
RoHS compliant

Raised SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP, Flatpack Package

1.00 mm pitch (from 1.00 mm up to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1029 & 1028			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	1.8 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

QU # #### -102# - ###### 95A #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
29 : Raised SMT – Dimension A = 3.20 mm
28 : Special Raised SMT - Dim. A = 4.50 mm

Plating
95A: Tin/Gold + Alignment plate
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

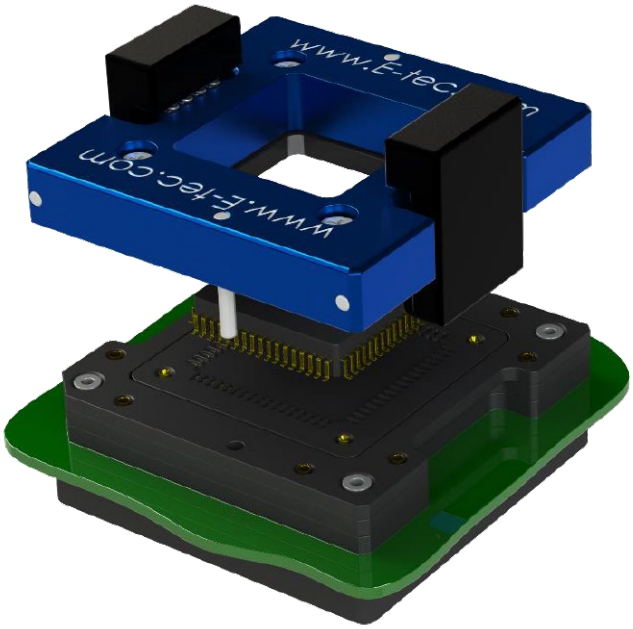
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

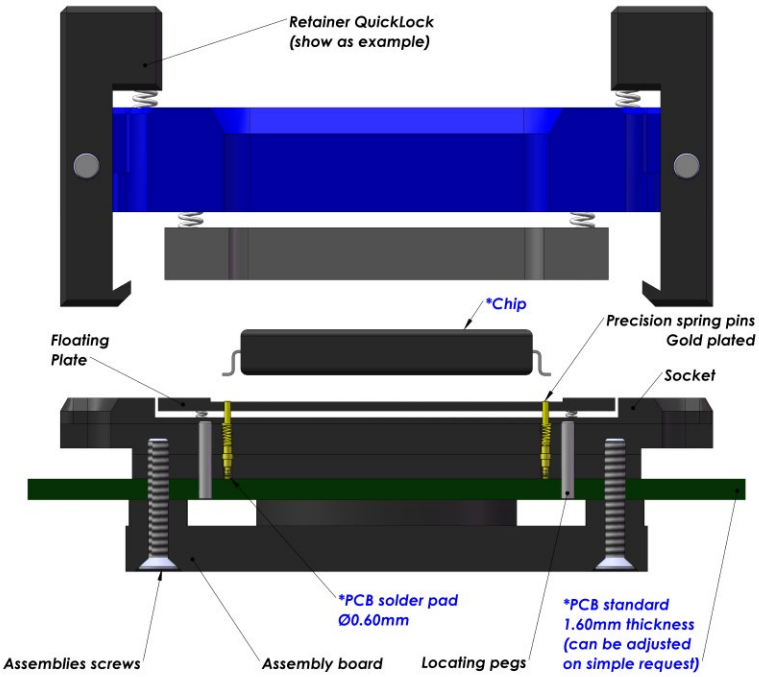
RoHS compliant

Probe Pin Solderless Compression Test Socket

For SOP / DSO / SOIC / QFP / xQFP Package

1.00 mm pitch (from 1.00 mm to 1.26 mm)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications						
Contact type code	**1090**	**1091**	**1092**	**1093**	**1094**	**1098**
Application	Standard	Long Live	High Frequency	High Power	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	11 GHz	31 GHz	10 GHz	9.4 GHz	30.3 GHz
Contact resistance	<100 mOhm	45 mOhm	100 mOhm	30 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Round tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	33 gr	30 gr	25 gr	25 gr
Current rating	1.8 A	3 A	1 A	4 A	5 A	2.6 A
Capacitance pF	<1 pF	0.55 pF	0.39 pF	0.19 pF	0.85 pF	0.54 pF
Inductance nH	<2 nH	0.76 nH	1.01 nH	0.93 nH	1.36 nH	1.70 nH
Impedance Ohms	45 Ω	36 Ω	46 Ω	38 Ω	35 Ω	59.9 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-50°C to +120°C	-55°C to +180°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	125 K	100 K	100 K

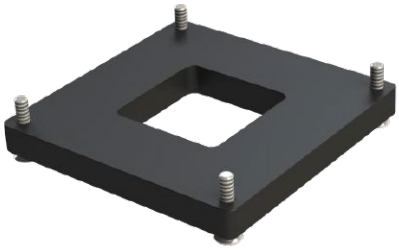
More on the next page

RoHS compliant

Standard assembly boards

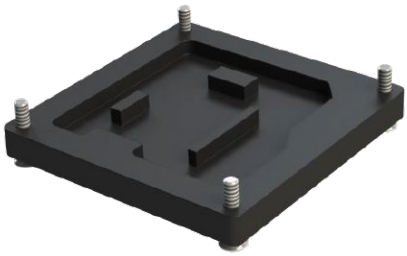
Small Chip size

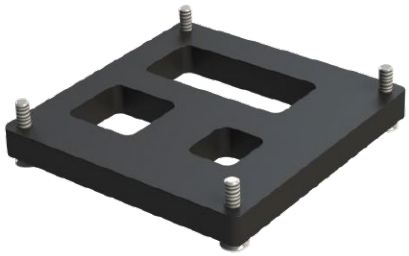
Medium Chip size



Large Chip size

Custom assembly boards





How to order

QU # ####-109#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

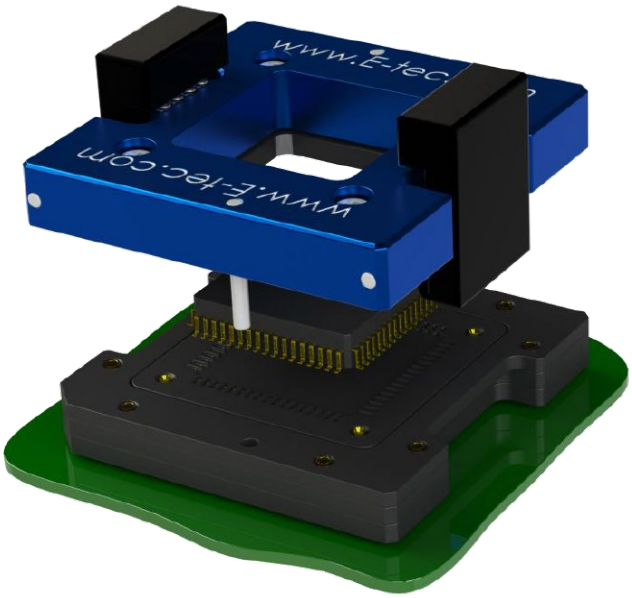
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

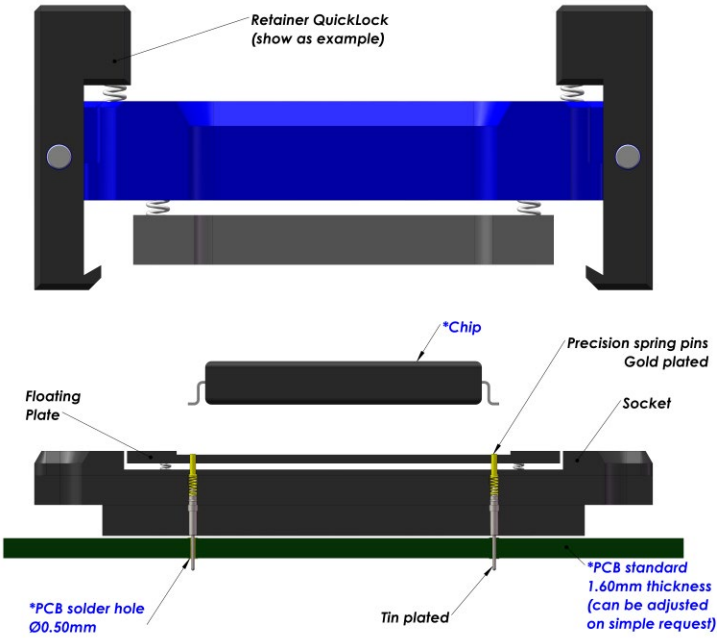
RoHS compliant

Through-hole (THT) soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Through-hole socket uses the same footprint as your chip. Socket is simply placed and wave soldered onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Through-hole sockets are available with all retention systems. Please note, we will always request the chip data to ensure we offer a compatible socket.

Specifications contact type code 1270			
Application	Through-hole technology	**Force**	25 gr
Mounting	THT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Through-hole	**Mating cycles**	100 K

How to order

QU # ####-127# - ###### #5 #

Shape of tip
- **U :** Concave

Options:
- **P :** Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
- **70 :** Standard THT
- **72 :** Special THT to plug into MGS adapters

Plating
- **95:** Tin / Gold
- **55:** Gold / Gold
- Other on request

Option code (see page 16-19)
- **D :** Dead bug
- **M :** Multi frames
- **U :** Multi packages
- **S :** Custom opening slot
- **L :** Locating pegs
- **A :** Alignment plate
- **H :** Heatsink
- **F :** Fan + Heatsink
- **P :** Thermal drain pad
- **W:** Transparent lid
- **I :** Steel retention lid
- **B :** Aluminium retention lid
- **T :** Torque tool fixture
- **G :** Handling button

Retention frame type (Lid) (see page 12-15)
- **S :** ScrewLock
- **F :** FastLock
- **B :** SpringLock
- **H :** Open Clamshell Alu (<200 contacts)
- **J :** Clamshell Alu (>200 contacts)
- **L :** Open Lever Clamshell Alu (>200 contacts)
- **Q :** Open QuickLock (<200 contacts)
- **D :** QuickLock (>200 contacts)
- **M :** Injection Molded ClamShell

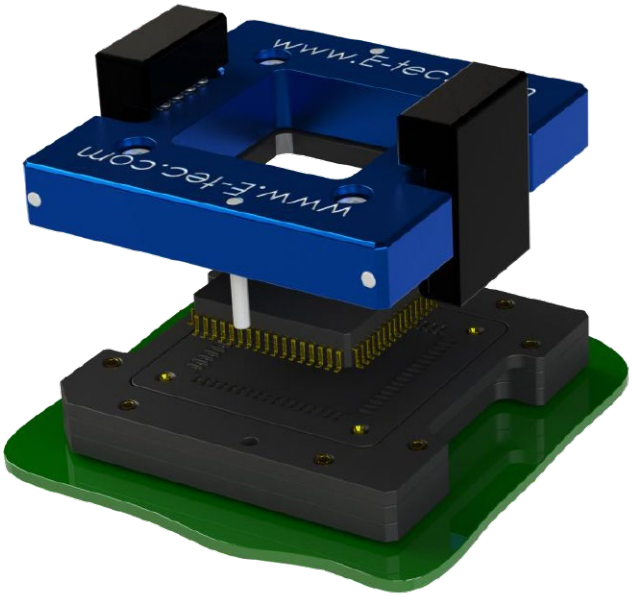
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

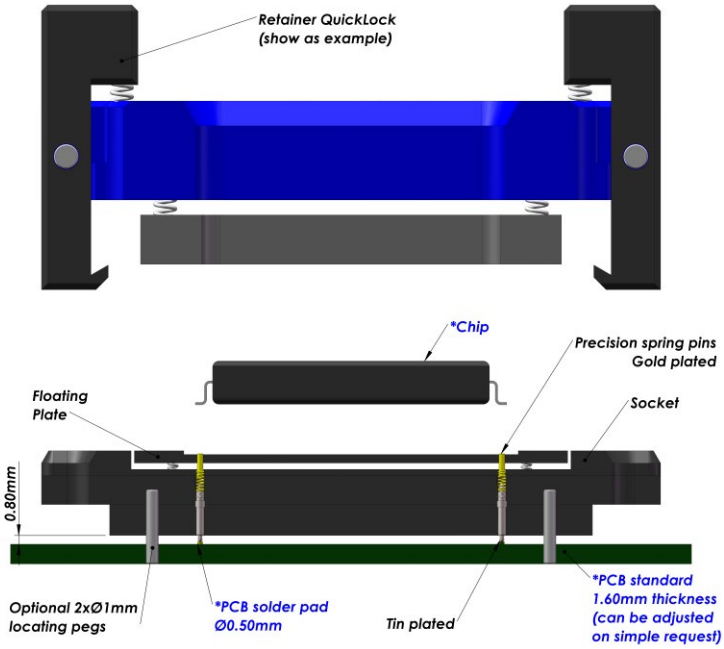
RoHS compliant

Standard SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP / Flatpack Package

1.27 mm pitch (from 1.27 upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The SMT socket uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. SMT type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength

Specifications contact type code 1230			
Application	Surface mouting	**Force**	25 gr
Mounting	SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	3 GHz	**Capacitance pF**	< 1 pF
Contact resistance	<100mOhm	**Inductance nH**	< 2 nH
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	SMT	**Mating cycles**	100 K

How to order

QU # ####-1230 - ######95 #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
30 : Standard SMT – Dimension A = 0.80 mm

Plating
95 : Tin / Gold
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
T : Torque tool fixture
B : Aluminium retention lid
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

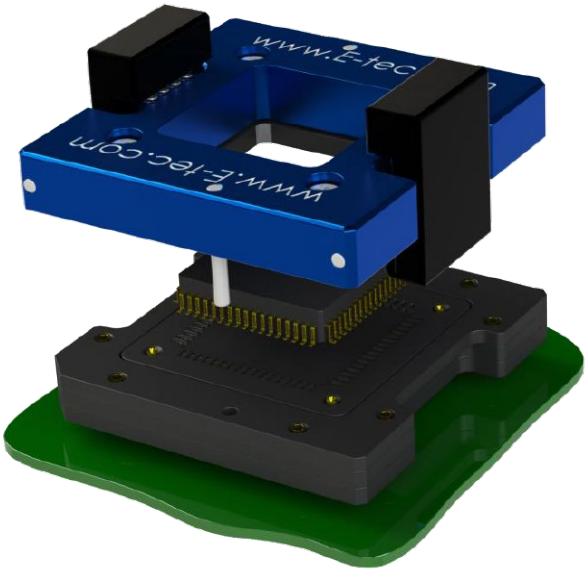
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

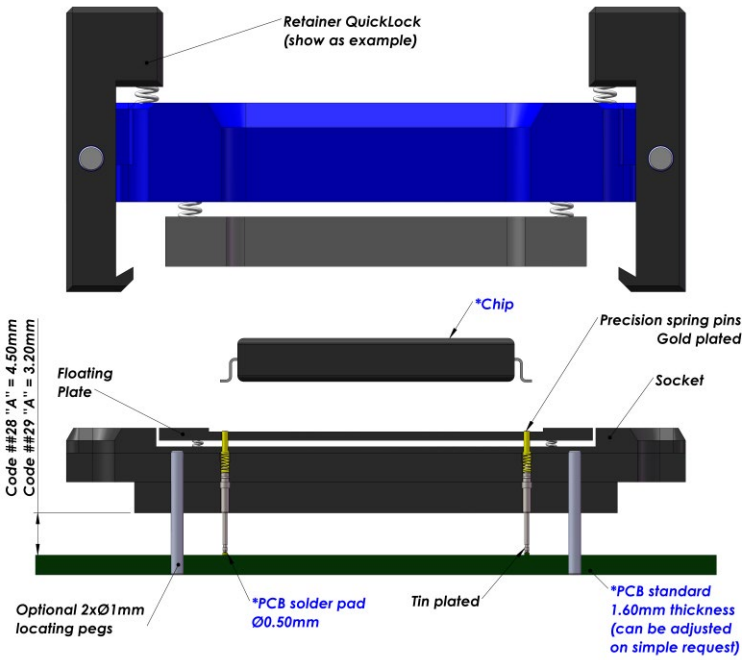
RoHS compliant

Raised SMT soldering Test Socket

For SOP / DSO / SOIC / QFP / xQFP, Flatpack Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

The Raised SMT socket lifts the socket above close-by components on PCB and uses the same footprint as your chip. Socket is simply placed and reflowed onto the PCB in the same way as the chip and it only requires a small amount of additional board space. Raised SMT sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket. For Raised SMT sockets in general, E-tec Interconnect AG recommends the use of locating pegs, which can be soldered to the PCB for added mechanical strength.

Specifications contact type code 1229			
Application	Surface mouting	**Force**	25 gr
Mounting	Raised SMT	**Current rating**	2.2 A
Bandwidth (GHz@-1dB)	na	**Capacitance pF**	na
Contact resistance	<100mOhm	**Inductance nH**	na
Chip contact tip shape	Single Point tip or Concave tip	**Temperature range**	-55°C to +150°C
PCB tip shape	Raised SMT	**Mating cycles**	100 K

How to order

QU # #### -1229 - ###### 95A #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
29 : Raised SMT – Dimension A = 3.20 mm
28 : Special Raised SMT - Dim. A = 4.50 mm

Plating
95A: Tin/Gold + Alignment plate
Other on request

Option code (see page 16-19)
D : Dead bug
U : Multi packages
S : Custom opening slot
L : Locating pegs
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W : Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

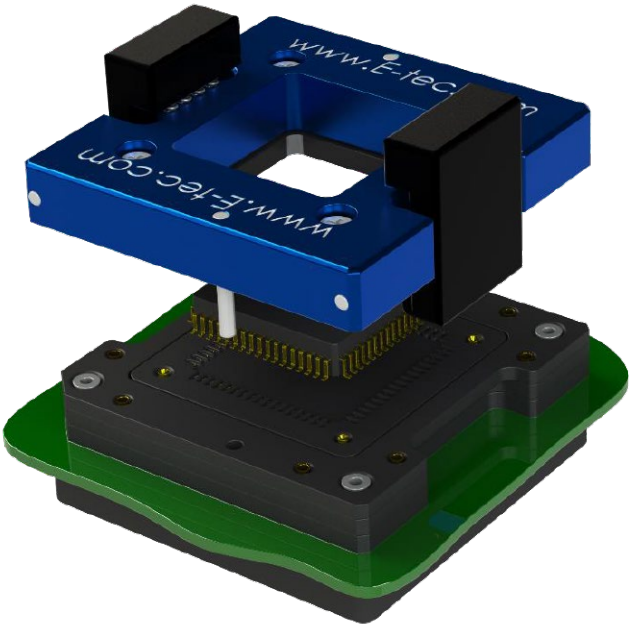
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

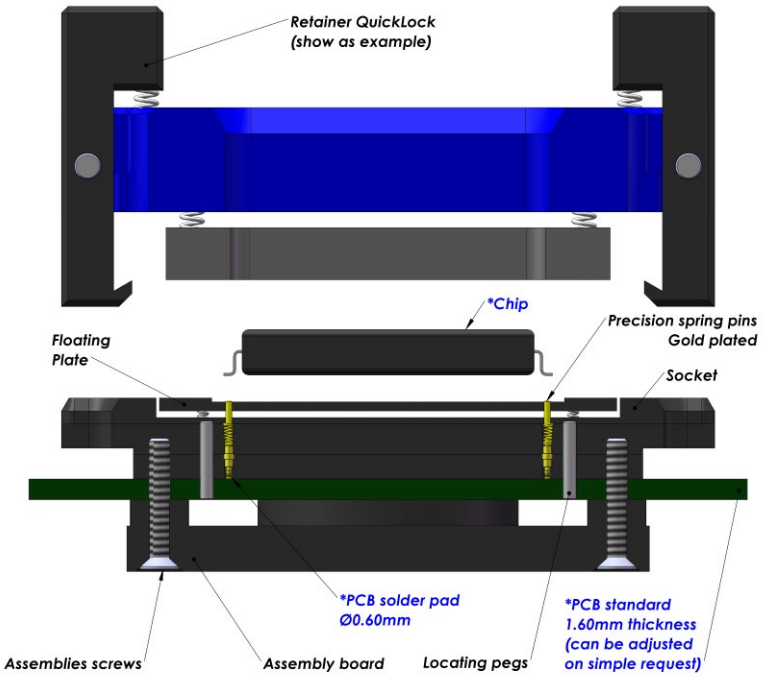
RoHS compliant

Probe Pin Solderless Compression Test Socket

For SOP / DSO / SOIC / QFP / xQFP Package

1.27 mm pitch (from 1.27 mm upwards)





E-tec Interconnect AG is the world leading Test socket manufacturer

Probe Pin (Pogo) Solderless compression Test Sockets type are available for any chip size and pitch and are attached with 2, 4 or 8 screws to the PCB. The assembly board ensures perfect coplanarity of the socket. Contact reliability is guaranteed with spring loaded gold plated contacts, which are pressed onto gold plated PCB pads. Probe Pin (Pogo) Solderless compression type sockets are available with all retention systems. We aim to solve your requirements. Please note, we will always request the chip data to ensure we offer a compatible socket.

Contacts Specifications				
Contact type code	**1290**	**1291**	**1294**	**1298**
Application	Standard	High Frequency + Long Live	Frequency	Frequency
Mounting	Solderless	Solderless	Solderless	Solderless
Bandwidth (GHz@-1dB)	3 GHz	37.5 GHz	13.3 GHz	23.7 GHz
Contact resistance	<100 mOhm	45 mOhm	25 mOhm	25 mOhm
Chip contact tip shape	Single Point tip Concave tip	Crown tip	Single Point tip	Single Point tip
PCB tip shape	Single Point tip	Single Point tip	Spring	Spring
Force	25 gr	35 gr	25 gr	25 gr
Current rating	2.2 A	3 A	5 A	2.6 A
Capacitance pF	<1 pF	0.43 pF	0.76 pF	0.50 pF
Inductance nH	<2 nH	0.82 nH	1.73 nH	2.03 nH
Impedance Ohms	48 Ω	41 Ω	42.8 Ω	67.5 Ω
Temperature range	-55°C to +150°C	-40°C to +120°C	-55°C to +150°C	-55°C to +150°C
Mating cycles	100 K	300 K	100 K	100 K

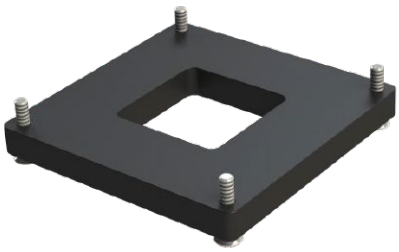
More on the next page

RoHS compliant

Standard assembly boards

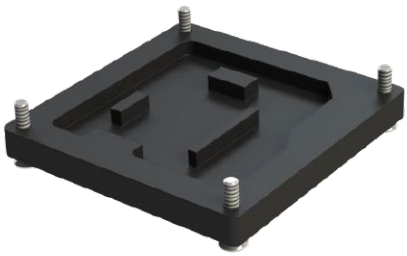
Small Chip size

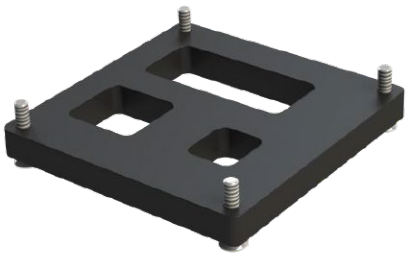
Medium Chip size



Large Chip size

Custom assembly boards





How to order

QU # ####-129#-######55L #

Shape of tip
U : Concave
Options:
P : Pointed

Nbr of contacts
Depends on ballcount of chip

Contact type
91 to 98 : See "Contacts specification" chart
90 : Standard solderless compression style
9M: Special mixed contact style

Plating
55L: Gold + Locating pegs
Other on request

Option code (see page 16-19)
D : Dead bug
M : Multi frames
U : Multi packages
S : Custom opening slot
H : Heatsink
F : Fan + Heatsink
P : Thermal drain pad
W: Transparent lid
I : Steel retention lid
B : Aluminium retention lid
T : Torque tool fixture
G : Handling button

Retention frame type (Lid) (see page 12-15)
S : ScrewLock
F : FastLock
B : SpringLock
H : Open Clamshell Alu (<200 contacts)
J : Clamshell Alu (>200 contacts)
L : Open Lever Clamshell Alu (>200 contacts)
Q : Open QuickLock (<200 contacts)
D : QuickLock (>200 contacts)
M : Injection Molded ClamShell

Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

RoHS compliant

Why need an adapter?

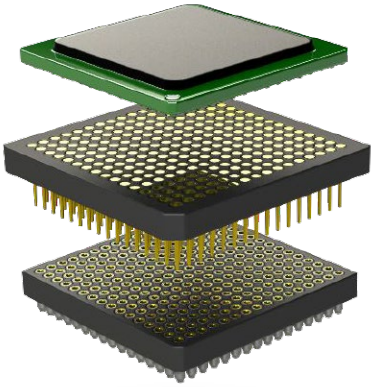
In certain cases, you are not able to place any test socket on your board, because:

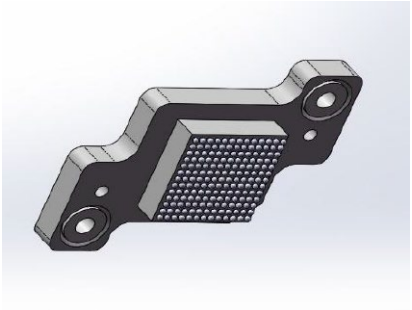
- *Its density is too high*
- *It was not designed to accommodate any test socket.*
- *The package dimensions or layout have changed.*
- *Etc...*

So E-tec Interconnect has developed a mounting solution with adapter for Test Sockets. As usual, we propose a full range of mounting, to help customer to find the right solution for his own issue.

ABG series: Male adapter

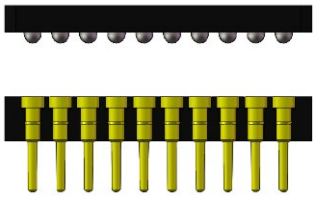
*The E-tec Interconnect BGA Adapter System comprises two elements, the BGA solder adapter onto which the BGA chip is soldered (converting the BGA chip to a PGA, **ABG** series), and the MiniGrid Socket which is soldered to the PCB. The solder adapter can then be plugged into the **M**ini**G**rid **S**ocket (refer to **MGS** series).*





The pitch becomes smaller and smaller. So, E-tec Interconnect modified the ABG series and reduce the pitch to 0.4 mm. Its design team also enhanced the functionality to incorporate from now on our Solderless Compression Test Socket as well.

Thanks to this progress, E-tec Interconnect continues to respond to your constant new requests.

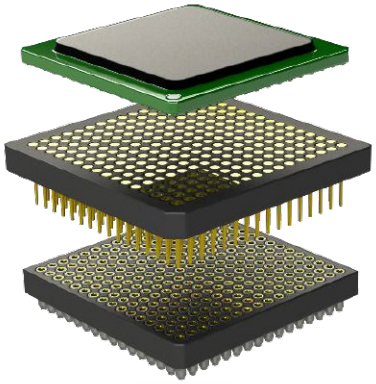


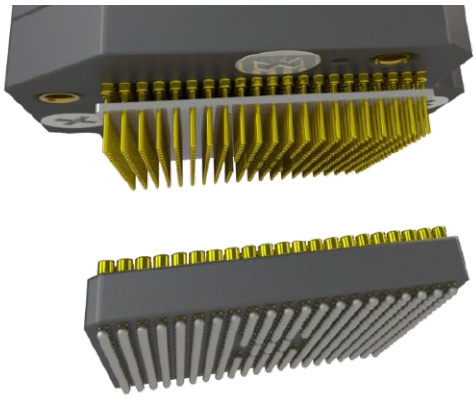
Standard SMT pin, raised SMT pin and SMT solderballs are available in both functions.

E-tec Interconnect offers any pin-out, configuration and grid size.
Special terminal designs are possible on request

MGS series: Female adapter

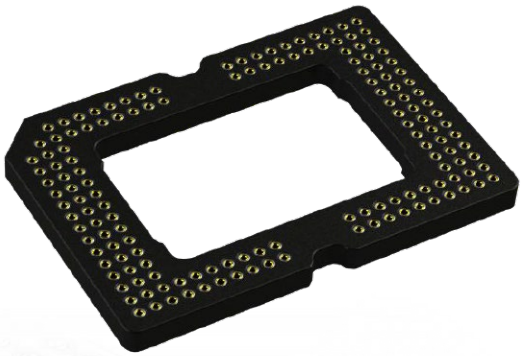
*The E-tec Interconnect **M**ini**G**rid **S**ocket adapter is soldered to the target board and is designed to accept the BGA solder **ABG** adapter (where the chip is soldered to the adapter board) or any kind of miniPGA or PGI .*
As an alternative, this MiniGrid Socket is also designed to accept the "true" through hole BGA Sockets (where the chips can be socketed without soldering).



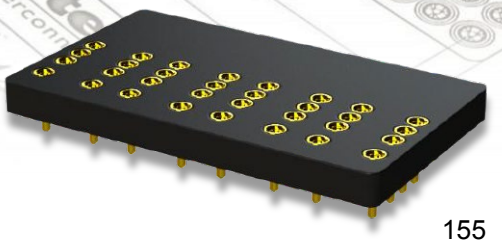


***M**ini**G**rid **S**ocket adapter allows E-tec Interconnect Test Sockets to be inserted.*
The SMT adapter is available either with solder ball or with solid pin terminals. This SMT adapter emulates the chip's BGA footprint and is easily installed using standard flux and reflow techniques. The solder ball adapters have the same solder ball types as the IC's they are emulating. You can combine the SMT foot with any of the E-tec Interconnect socket styles shown in the Test Socket section. The corresponding male BGA socket, through hole type, is plugged into the adapter.

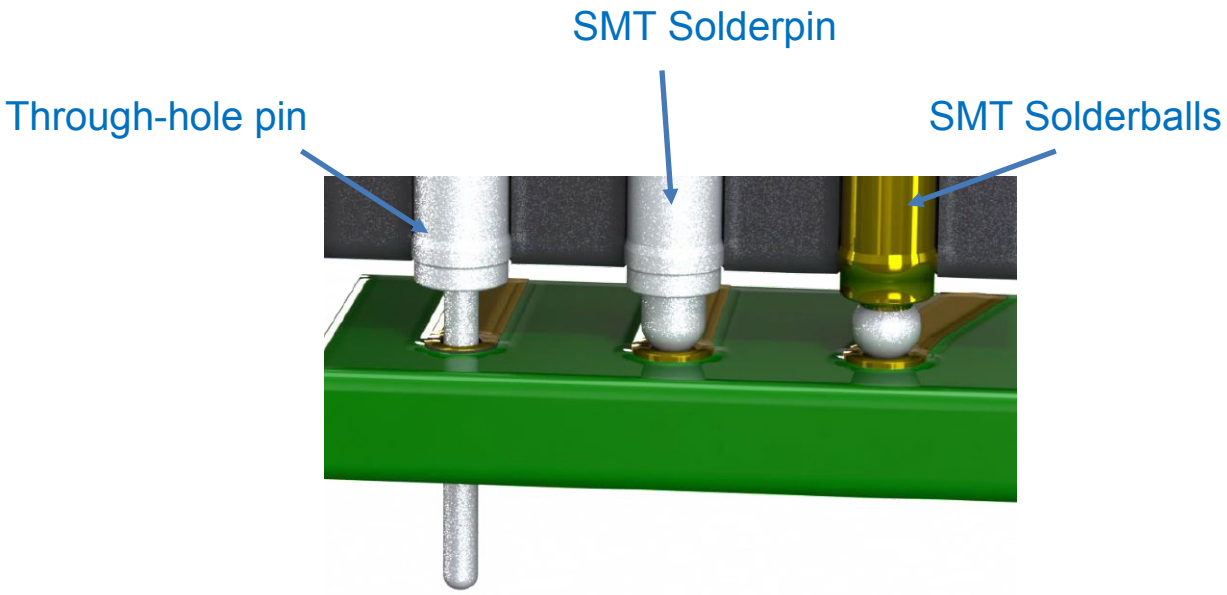
E-tec Interconnect offer any pin-out, configuration and grid size for pitch 0.8mm, 1.00mm and 1.27mm, any pin-out, configuration and grid size. Other pitch and special terminal designs are possible on request.



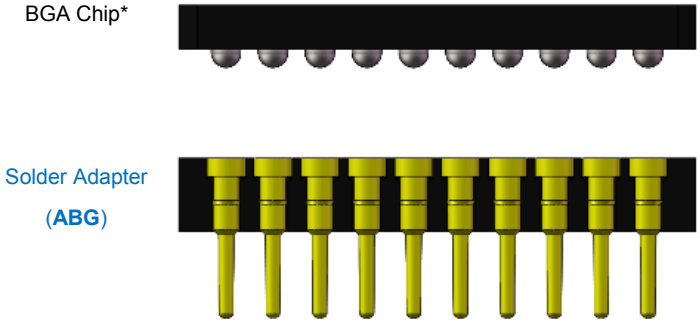
E-tec Interconnect prides itself on being a leader in the Test Interconnect industry and working with our customers to design the highest performance, top quality testing solutions possible.

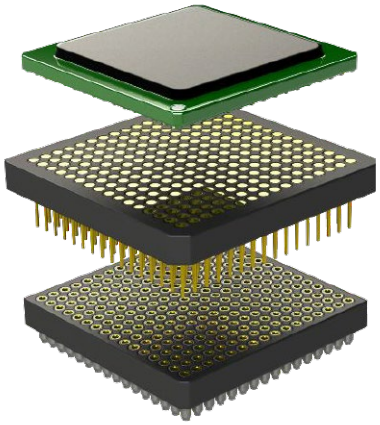


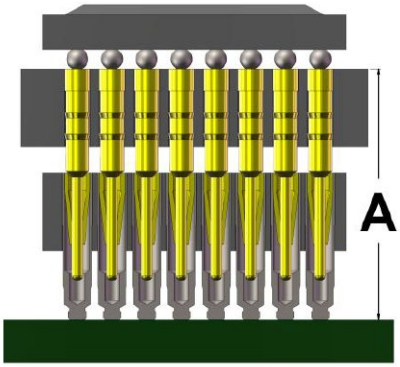
	Adapter series				
Pitch	MGS THT	MGS SMT Solderpin	MGS SMT Solderballs	ABG SMT Solderpin	ABG SMT Solderballs
0.4 mm	no	no	no	yes	yes
0.5 mm	no	no	no	yes	yes
0.8 mm	yes	yes	yes	yes	yes
1.0 mm	yes	yes	yes	yes	yes
1.27 mm	yes	yes	yes	yes	yes



ABG adapter to be plug into MGS adapter

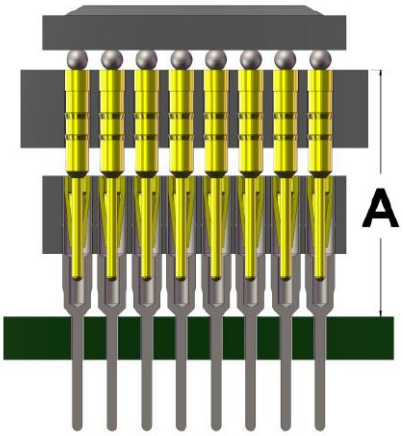






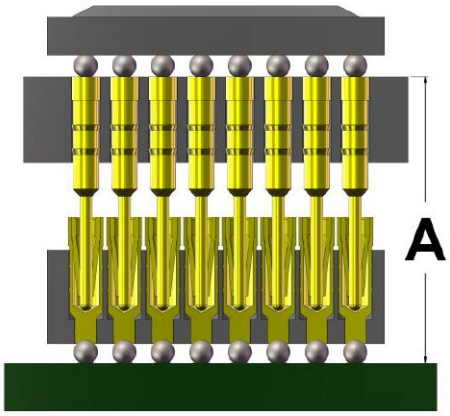
Dimension A

Pitch 1.27 mm : 5.4 mm
Pitch 1.00 mm : 5.9 mm
Pitch 0.80 mm : 5.9 mm



Dimension A

Pitch 1.27 mm : 5.2 mm
Pitch 1.00 mm : 5.7 mm
Pitch 0.80 mm : 5.7 mm



Dimension A

Pitch 1.27 mm : 5.6 mm
Pitch 1.00 mm : 5.6 mm
Pitch 0.80 mm : 5.7 mm

Specifications				
Terminal Type 116, 158, 168 & 175	**Material** Contact: CuZn Solderball: SAC305	**Plating** Au over Ni over Cu	**Adapter** **Material:** *Polyepoxy or other high temp mat.*	**Others** **Operating Temperature :** –55°C to +125°C **Processing Temperature :** +260°C for 60 sec.

How to order

ABG ####-####-### 55##

Nbr of contacts
Depends on ballcount of chip

Contact type

E116 :	Standard for 1.27 mm pitch *(concave shape)*
E158 :	Optional for 1.27 mm pitch
E168 :	Standard for 1.00 mm pitch
E175 :	Standard for 0.80 mm pitch

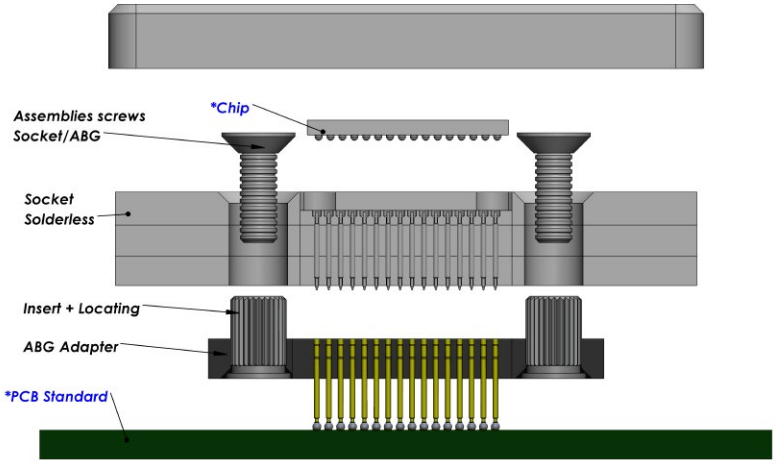
Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

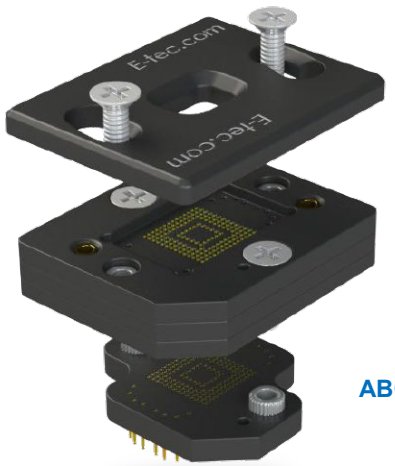
Plating
55: Gold/Gold

Pitch
12: 1.27 mm
10: 1.00 mm (up to 1.20)
08: 0.80 mm (up to 0.90)

RoHS compliant

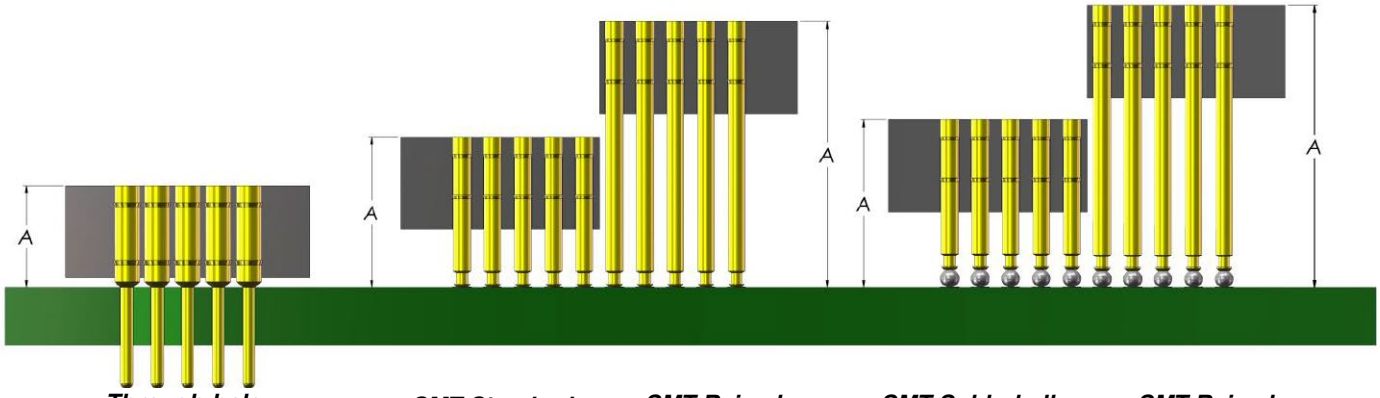
ABG adapter to be soldered onto board





BGA Socket
(Screwed on ABG)

ABG Raised SMT Adapter



Through-hole type ***SMT Standard type*** ***SMT Raised type*** ***SMT Solderballs type*** ***SMT Raised Solderballs type***

Specifications				
Terminal Type 116, 158, 168, 175, 420, 406, & 437	**Material** Contact : CuZn Solderball : SAC305	**Plating** Au over Ni over Cu	**Adapter** **Material:** *Polyepoxy or other high temp mat.*	**Others** **Operating Temperature :** –55°C to +125°C **Processing Temperature :** +260°C for 60 sec.

How to order

ABG #### - #### - ### # 5 ##

Nbr of contacts
Depends on ballcount of chip

Contact type

E116	:	Through-hole for 1.27 mm pitch *(concave) A=2.0mm*
E158	:	Through-hole Optional for 1.27 mm pitch *A =2.0 mm*
E168	:	Through-hole for 1.00 mm pitch *A= 2.5 mm*
E175	:	Through-hole for 0.80 mm pitch *A= 2.5 mm*
E420	:	Through-hole for 0.60 mm pitch *A= 1.5 mm*
E406	:	SMT 0.40 /0.50 / 0.60 mm pitch *A= 2.8 mm*
E437	:	Raised SMT 0.40 / 0.50 / 0.60 mm pitch *A= 4.7 mm*
SB406	:	SMT Solderballs 0.40 /0.50 / 0.60 mm pitch *A= 2.8 mm*
SB437	:	Raised SMT Solderballs 0.40 / 0.50 / 0.60 mm *A= 4.7 mm*

Plating
55: Gold/Gold
For Solderballs only :
95: Tin/Gold
05: PbTin/Gold

Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

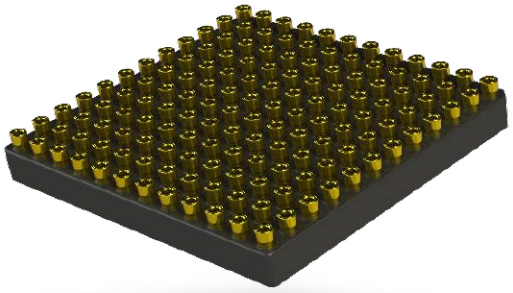
Pitch
12: 1.27 mm
10: 1.0 mm (up to 1.26)
08: 0.8 mm (up to 0.99)
07: 0.70 mm (up to 0.79)
06: 0.60 mm (up to 0.69)
05: 0.50 mm (up to 0.59)
04: 0.40 mm (up to 0.49)

RoHS compliant

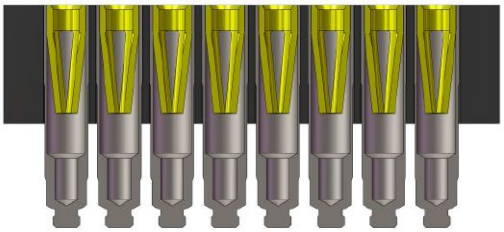
SMT / THT MGS adapter series

From **0.8 up to 1.27** mm pitch

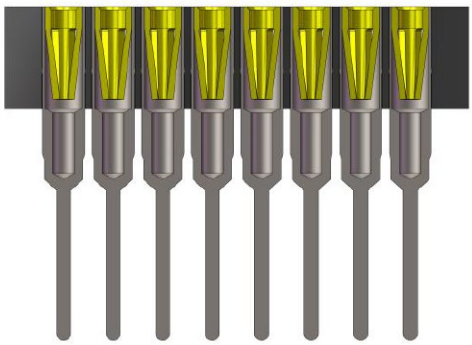
The E-tec Interconnect MiniGrid Socket is soldered to the target board and is designed to accept the BGA Solder Adapter (where the chip is soldered to the adapter board). As an alternative, this MiniGrid Socket is also designed to accept Test Sockets.
E-tec offers any pin-out, configuration and grid size.
Special terminal designs are possible on request.



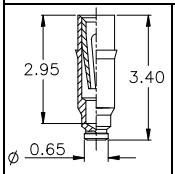
SMT Standard type



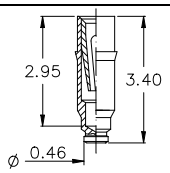
Through hole type (THT)



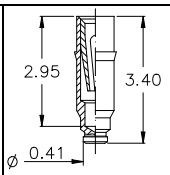
Terminal styles



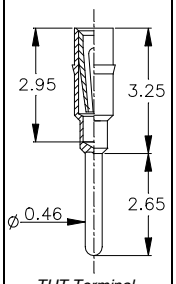
SMT Terminal
Type 119
if 1,27 ; 1,50 & 2,00mm pitch



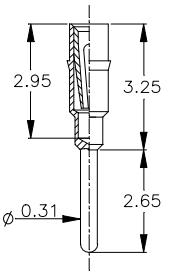
SMT Terminal
Type 167
if 1,00mm pitch



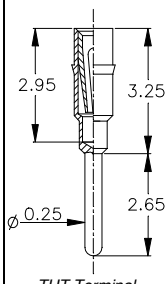
SMT Terminal
Type 169
if 0,80mm pitch



THT Terminal
Type 117
if 1,27 ; 1,50 & 2,00mm pitch



THT Terminal
Type 172
if 1,00mm pitch



THT Terminal
Type 174
if 0,80mm pitch

Specifications				
Terminal Type	***Material***	***Plating***	**Socket**	**Others**
117, 119, 167, 169, 172, 174	***Terminal*** : *CuZn* ***Contact clip*** : *BeCu*	*Sn over Ni over Cu* *Au over Ni over Cu*	***Material***: *Polyepoxy or other high temp mat.*	***Operating Temperature*** : *–55°C to +125°C* ***Processing Temperature*** : *260°C for 60 sec.*

How to order

MGS ####-E###-### #5##

Nbr of contacts

Depends on ballcount of chip

Contact type

E117 :	THT 1.27 / 1.50 / 2.00 mm pitch
E172 :	THT 1.00 mm pitch
E174 :	THT 0.80 mm pitch
E119 :	SMT 1.27 / 1.50 / 2.00 mm pitch
E167 :	SMT 1.00 mm pitch
E169 :	SMT 0.80 mm pitch

Plating

95: Tin/Gold
55: Gold/Gold

Grid code / Config. code

Will be given by the factory after receipt of the chip datasheet

Pitch

12: 1.27 mm
10: 1.0 mm (up to 1.26)
08: 0.8 mm (up to 0.99)

RoHS compliant

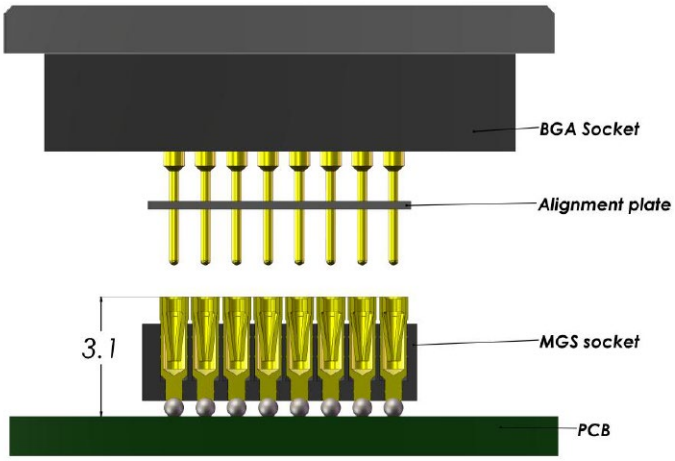
SMT Solderball MGS adapter series

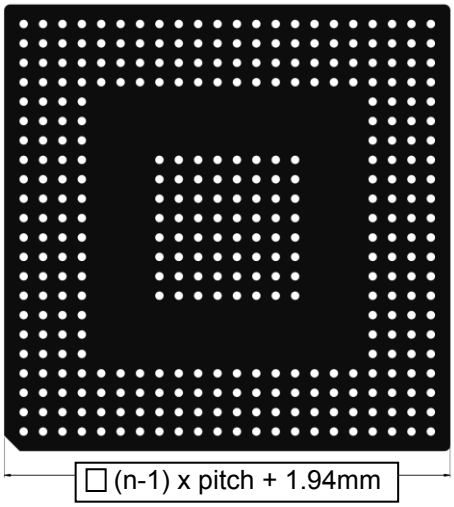
From **0.8 up to 1.27** mm pitch

The E-tec Interconnect SMT Solderball MGS adapter emulates the package footprint and is easily installed using standard flux and reflow techniques. The solder ball adapters have the same solder ball types as the package's they are emulating. You can combine the SMT foot with any of the E-tec Test socket styles shown in the Test Socket catalogue. The Test Socket is plugged into these adapter, which will be delivered with gold plated through hole pin and alignment plate for easy insertion.
We offer any pin-out, configuration and grid size for pitch 0.8mm, 1.00mm and 1.27mm.

Test Socket
(Plugged into adapter)

Solderball SMT Adapter





Specifications		
Insulator (Adapter Wafer)	**Material:**	*Polyepoxy or equivalent high temp material*
Contact (Terminal & Contact Clip)	**Material:**	*Terminal* CuZn *Contact Clip* BeCu
Solderball	**Material:**	*Sn63Pb 37* *(NON RoHS compliant)* *Sn96.5 Ag 3.0 Cu 0.5*

Operating Temperature: -55°C to +125°C **Processing Temperature:** 260°C for 60 sec. **Insertion force:** 0.45N/Contact **Extraction force:** 0.25N/Contact

How to order

MGS ####-SB01-### #5##

Nbr of contacts
Depends on ballcount of chip

Contact type
SB01 : Standard size
(see drawing above)

Plating
95: Tin/Gold
05: PbTin/Gold

Grid code / Config. code
Will be given by the factory after receipt of the chip datasheet

Pitch
12: 1.27 mm
10: 1.0 mm (up to 1.26)
08: 0.8 mm (up to 0.99)

RoHS compliant

ZIF Test Socket

For for Flex Cables, Displays and Membrane keyboards

From 0.40 mm pitch up to 2.54 mm

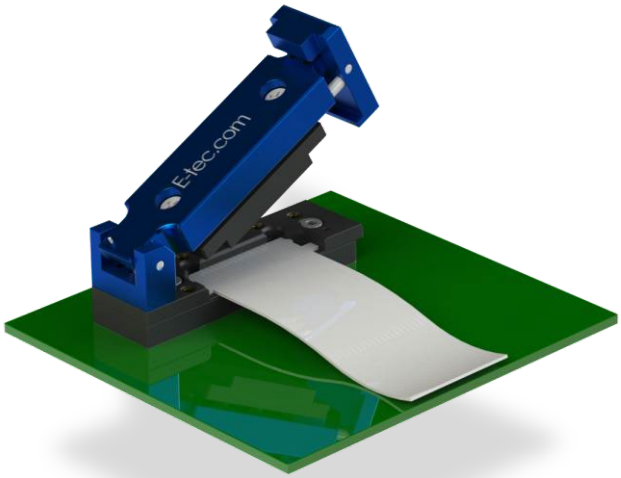
E-tec Interconnect AG is the world leading Test socket manufacturer

The ZIF test Socket are used for functional and reliability high cycle testing for Flex Cables, Displays and Membrane keyboards. Depends on your application, the place on your board and the pitch, you can choose to fix the socket directly on your PCB with our different mounting options or connect your actual PCB with our test adapter with FFC / FPC interface flat cable. In order to provide you with the correct ZIF test socket for your Flex Cables, Displays and Membrane keyboards, we will ask you for device / FFC / FCP drawing, detailed information about the application, cable you are using as well as its dimensions, pitch and performance. We aim to solve your requirements.

Different sockets series available

FCT Series

To be fix on your PCB.
Solderless / SMT / THT
depend on pitch and application



FCP Series

To be placed outside your PCB.
Connected with flat cable to your actual PCB

FTU Series

To be placed outside your PCB.
Connected with flat cable to your actual PCB

More on the next page

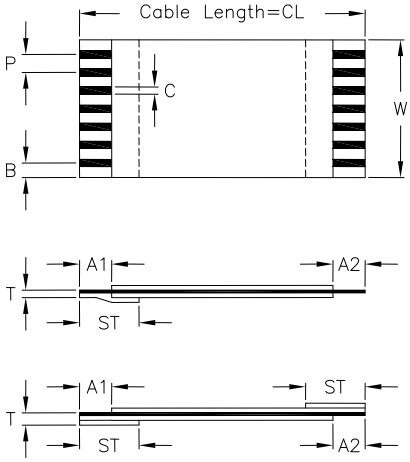
RoHS compliant

FCT Series specifications & How to order

Cable Dimensions

In order to be able to offer the correct socket for your cable, we need to know the type of cable you are using and the corresponding dimensions as shown below.

Please send the datasheet of your cable together with your socket request.



Specifications

Mechanical data	
Contact life	100K cycles min.
Retention System life	10K cycles min.
Solderability	as per IEC 60068-2-58
Individual contact force	40 grams max.
Material	
Insulator *(RoHS compliant)*	High temp plastic or Polyepoxy
Terminal *(RoHS compliant)*	Brass
Spring *(RoHS compliant)*	BeCu
Electrical data	
Contact resistance	< 100 mΩ
Current rating	1 A – 2 A depend on pitch
Insulation resistance at 500V DC	100 MΩ if 0.50 to 0.80mm pitch 500 MΩ 1.00mm pitch upwards
Breakdown voltage at 60 Hz	500V min.
Capacitance	< 1 pF
Inductance	< 2 nH
Operating temperature	–55°C to +150°C
Processing temperature	260°C for 60sec.

A detailed socket drawing with the required PCB layout dimensions will be submitted by E-tec for each project.

How to order

FCT - x xx- Xxxx - xx

Pitch	Nbr of conductors	Socket type	Execution	Plating
0 : 0.40mm* **1 :** 0.50mm **2 :** 0.80mm **3 :** 1.00mm **4 :** 1.25mm **5 :** 1.27mm **6 :** 2.00mm **7 :** 2.54mm	**02 to 80** Others on request	**T :** THT (soldertail) **S :** SMT (surface mount) **C :** Compression Type (solderless)	**000 :** standard *(will be given by the factory)*	**95 :** Tin / Gold **55 :** Gold *only for solderless Compression Type*

* Only with Compression socket type

FCP & FTU Series specifications and How to order

For more information
please contact your E-tec Sales office

Purpose

This document is meant to serve as a guide for mounting E-tec Interconnect surface mount device (SMD) sockets to the printed circuit board (PCB). The recommendations described here are guidelines only, and modifications may be needed for your particular socket, PCB, and process.

Application

The sockets this document applies to are as follows: FastLock, ScrewLock, TwistLock, ClamShell, QuickLock and ReverseLock in SMD style. These sockets utilize the E-tec Interconnect patented spring-pin technology. This technology allows the pins to be soldered to the PCB while still providing compliance to the device under test (DUT) via springs located at the other end of the pin. The pins themselves do not have solder pre-forms as a BGA would with its solder balls. However, the sockets are designed to mount to the same PCB footprint and pads as required by the BGA, or any other IC package the socket was designed for (except if locating pegs are used; see 'Locating Pegs' section of this document). When compared to mounting a BGA, an extra volume of solder paste is required to mount the sockets to the PCB. To effect this, a properly dimensioned stencil is required. Once the paste has been applied, a standard reflow process is then used to solder the socket to the PCB. After the socket is verified to have proper electrical connection to the PCB, the system is then ready to be used.

Locating Pegs

Although designed to mount to the same footprint as the IC, with just a small amount of additional keep-out area, E-tec Interconnect sockets can also be offered with locating pegs. The sockets are typically mounted with two locating pegs, which require two through-holes drilled into the PCB. These pegs help to align the socket on the PCB, and hence align the socket's pins to the PCB's pads, during the soldering process. Furthermore, plating the through-holes allows the locating pegs to be soldered to the PCB for better mechanical stability during everyday use and handling of the socket. If the PCB design permits, E-tec Interconnect recommends the use of these locating pegs. For fine-pitch, low pin-count sockets without locating pegs, the mechanical strength of the solder joints may be insufficient and the same also applies to FastLock, QuickLock, ClamShell & ReverseLock SMT sockets. In these cases, it is recommended to epoxy the socket body to the PCB. 3M Scotch-Weld 2216 B/A is a suitable epoxy. In any case, the proper volume of solder paste is required to ensure mechanical and electrical integrity. Recommended stencil dimensions are given in the next section of this document.

Mini-grid SMT adapters as an alternative to SMT sockets

Certain customers may find it difficult to solder the E-tec Interconnect SMT sockets (especially high pincount) directly to the PCB, due to the mass of the socket which makes it difficult to properly adjust the soldering process & temperatures. As an alternative, E-tec Interconnect offers mini-grid adapters, i.e. light weight female sockets (mounted with pins or solderballs) for soldering to the PCB (similar to the BGA chip). Thereafter, a through-hole socket can be plugged into this mini-grid adapter, thus doing away with the soldering problems of a rather heavy weight socket.

Stencil

Table 1 shows the recommended stencil dimensions. A laser-cut, electro-polished and Ni-plated stainless steel stencil is recommended to give the most consistent paste release. The apertures can be made round except for smaller pitches, where square apertures are recommended. Remember to keep the stencil small enough to fit within the keep-out area of the socket, but yet have provisions to remove it from the PCB once the paste has been applied.

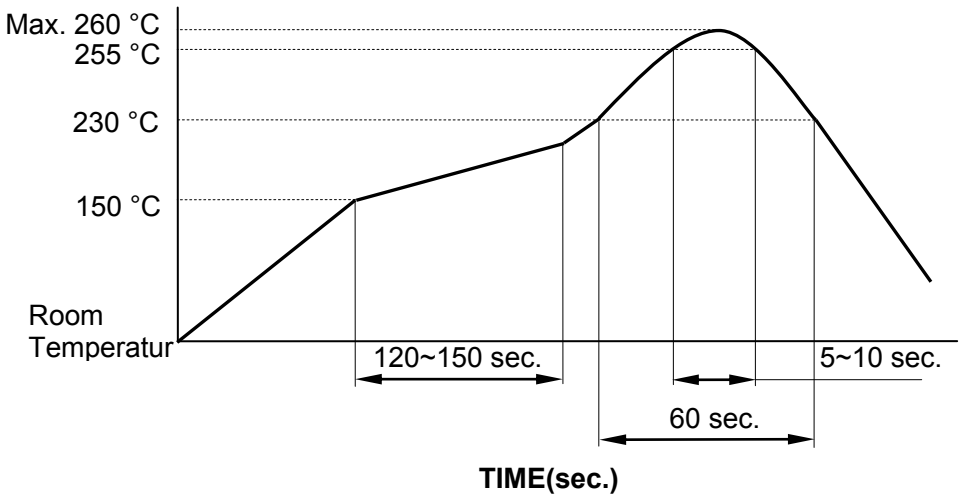
Table 1: Recommended stencil dimensions.

Device Pitch (mm)	PCB Pad Diameter (mm / in)	Stencil Thickness (mm/in)	Stencil Aperture (mm/in)
1.2	min. 0.60 / 0.023	0.15 / 0.006	round 0.66 / 0.026
1.0	min. 0.50 / 0.019	0.15 / 0.006	round 0.55 / 0.022
0.8	min. 0.40 / 0.016	0.13 / 0.005	round 0.44 / 0.017
0.7	min. 0.35 / 0.014	0.13 / 0.005	square 0.39 / 0.015
0.6	min. 0.35 / 0.014	0.13 / 0.005	square 0.39 / 0.015
0.5	min. 0.30 / 0.012	0.13 / 0.005	square 0.33 / 0.013

Solder Paste

E-tec Interconnect recommends using solder paste without (or <0.5%) silver (Ag) to reduce the solder's wetting ability and prevent the paste from running up the pins, thus maximizing the volume of solder left on the pads. Brands such as Qualitek (www.qualitek.com) or Alpha Assembly solutions (www.alphaassembly.com) produce such solder paste on customer request. For Sn/Pb solder paste we recommend Ecorel Easy 802S offered by Avantec (www.inventec.dehon.com).

Reflow Profile



Notes
1) Temperature indicated refers to the PCB surface temperature at solder tail area.
2) Actual reflow profile also depends on equipment, solder paste, PCB thickness, and Other components on the board.
Please consult your solder paste & reflow equipment manufacturer for their recommendations to adopt a suitable process.

Classification Reflow Profile as per IPC / JEDEC J-STD-020C

Table 5-2 Classification Reflow Profiles

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-Up Rate (Ts_{max} to Tp)	3 °C/second max.	3° C/second max.
Preheat – Temperature Min (Ts_{min}) – Temperature Max (Ts_{max}) – Time (ts_{min} to ts_{max})	 100 °C 150 °C 60-120 seconds	 150 °C 200 °C 60-180 seconds
Time maintained above: – Temperature (T_L) – Time (t_L)	 183 °C 60-150 seconds	 217 °C 60-150 seconds
Peak/Classification Temperature (Tp)	See Table 4.1	See Table 4.2
Time within 5 °C of actual Peak Temperature (tp)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6 °C/second max.	6 °C/second max.
Time 25 °C to Peak Temperature	6 minutes max.	8 minutes max.

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

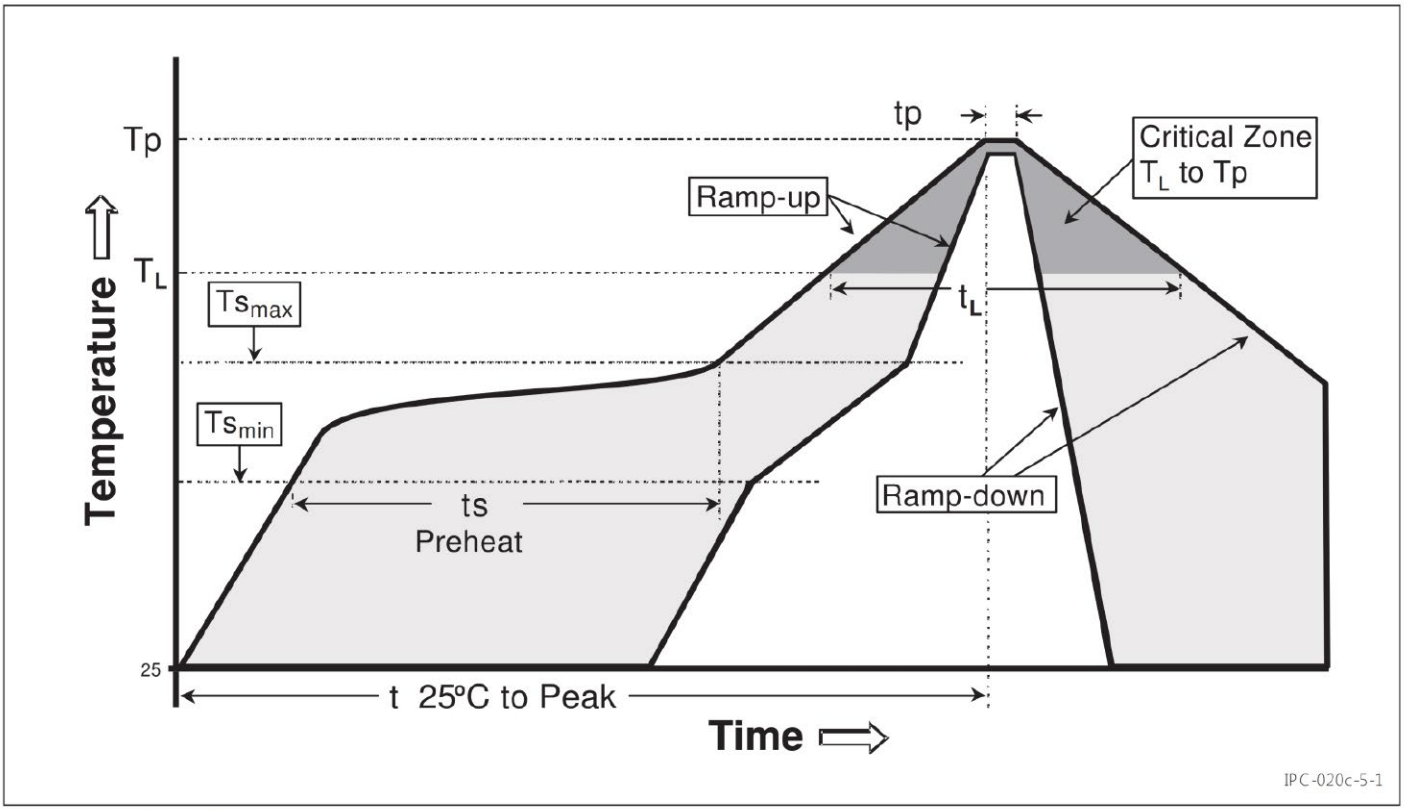


Figure 5-1 Classification Reflow Profile

Table 4-1 SnPb Eutectic Process – Package Peak Reflow Temperatures

Package Thickness	Volume mm³ <350	Volume mm³ ≥ 350
<2.5 mm	240 +0/-5 °C	225 +0/-5°C
≥ 2.5 mm	225 +0/-5°C	225 +0/-5°C

Table 4-2 Pb-free Process – Package Classification Reflow Temperatures

Package Thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >2000
<1.6 mm	260 +0 °C *	260 +0 °C *	260 +0 °C *
1.6 mm - 2.5 mm	260 +0 °C *	250 +0 °C *	245 +0 °C *
≥2.5 mm	250 +0 °C *	245 +0 °C *	245 +0 °C *
* Tolerance: The device manufacturer/supplier **shall** assure process compatibility up to and including the stated classification temperature (this means Peak reflow temperature +0 °C. For example 260 °C+0°C) at the rated MSL level.			

Note 1: The profiling tolerance is + 0 °C, -X °C (based on machine variation capability) whatever is required to control the profile process but at no time will it exceed - 5 °C. The producer assures process compatibility at the peak reflow profile temperatures defined in Table 4.2.
Note 2: Package volume excludes external terminals (balls, bumps, lands, leads) and/or nonintegral heat sinks.
Note 3: The maximum component temperature reached during reflow depends on package thickness and volume. The use of convection reflow processes reduces the thermal gradients between packages. However, thermal gradients due to differences in thermal mass of SMD packages may still exist.
Note 4: Components intended for use in a "lead-free" assembly process **shall** be evaluated using the "lead free" classification temperatures and profiles defined in Tables 4-1, 4.2 and 5-2 whether or not lead free.

Verifying the Assembly

After the socket has been reflowed to the PCB, open and short testing should be partaken to ensure proper assembly. The assembly house typically performs x-ray inspection to verify non-shorting of pins. However, as this is only a visual inspection, we recommend using a continuity tester or ohmmeter and simply sweeping random rows and columns of pins to ensure no shorting of pins. No damage to the springs will occur if very slight pressure from the meter's tips is applied (just touch the probes to the springs). For fine pitch sockets, a microscope would be helpful in placing the meter's tips appropriately.

After verifying the absence of shorts, open testing should be performed. The most direct, yet tedious, method is to use the continuity tester to directly probe each pin to a breakout or test point on the board. Again no damage will occur if the probes are touched to the springs. If heavy pressure is required to push the socket body towards the PCB to achieve continuity, this means a poor solder joint. If no such test points exist, then the BGA's via field on the backside of the PCB should be kept solder-mask free to allow for such probing. If the via field is kept open, a simpler open testing method can be performed. Simply use a wet sponge (or some other conductive material) and hold it onto the via field. This shorts all the pins together on the PCB. Insert one probe of the continuity tester into the sponge. Now sweep the pins of the socket with the other probe and check for continuity.

If the above procedures show any shorts or opens, then it is advisable to have the assembly house re-evaluate the assembly method used. An incorrect stencil can lead to too much or too little solder paste, easily leading short or open conditions and a solder paste with Ag contents (>=0.5%) may also result in solder joint failures. These are the primary reasons for socket mounting failures.

Important Notes:

a) Screw / TwistLock Socket

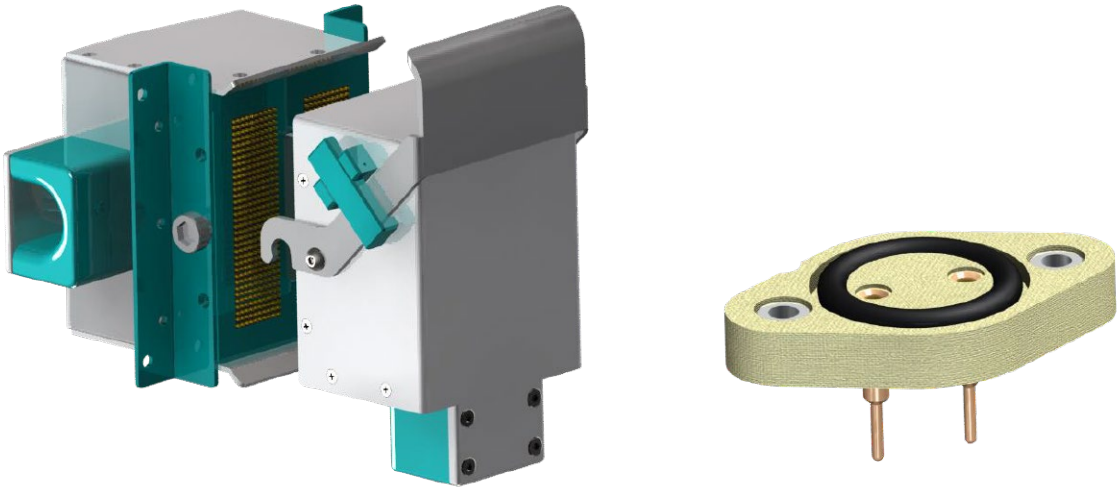
When tightening the lid of a Screw or TwistLock socket, it is imperative to not over-tighten the retention screws, otherwise irreparable damage may occur. Such damage is not covered by warranty and will be solely the end user's responsibility. The maximum allowed torque on these retention screws is 7cN-m (10oz-in) for sockets up to 800 pins and for sockets as of 800 pins the torque value needs to be increased but should not exceed a maximum of 10cN-m (14oz-in). E-tec Interconnect Interconnect sells the torque screwdriver TOL-7CN-TORQUE which is preset to 7cN-m, but which can be adjusted to higher torque values for the high pin count sockets.

b) FastLock / QuickLock / ClamShell / ReverseLock Socket

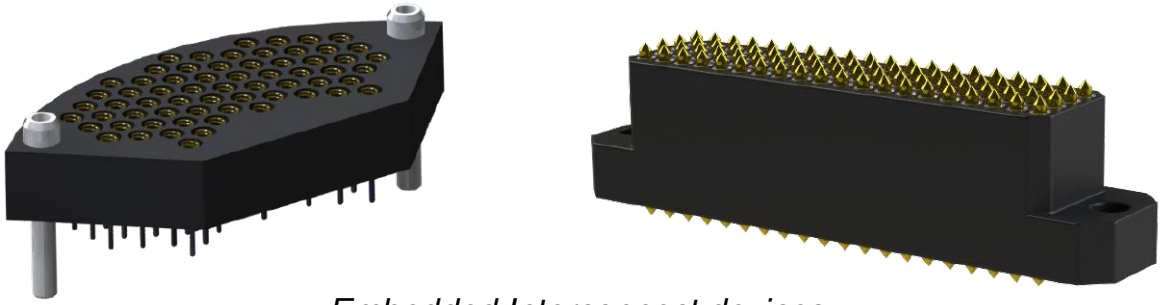
It is recommended to remove the FastLock, QuickLock, ClamShell and ReverseLock retainer from the socket base prior to soldering the sockets to the PCB. This will avoid socket displacement during the soldering process due to the weight of these retainers. User instructions on how to remove and reassemble the retainer from the socket base can be obtained from E-tec Interconnect Interconnect.

c) Pick & Place Pads

Pick & place pad options can be obtained on request for all SMT sockets. If required, please contact E-tec Interconnect prior to placing a purchase order, since such pick & place pad options may require special fixtures on the socket base which are not included in the standard socket design

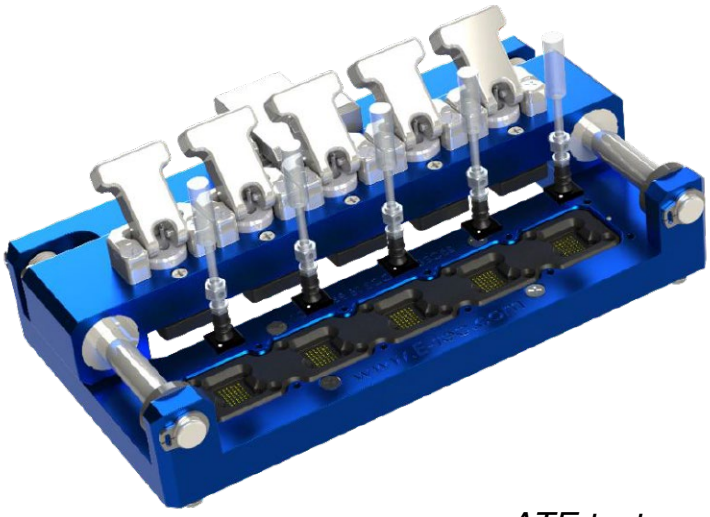


Customer devices

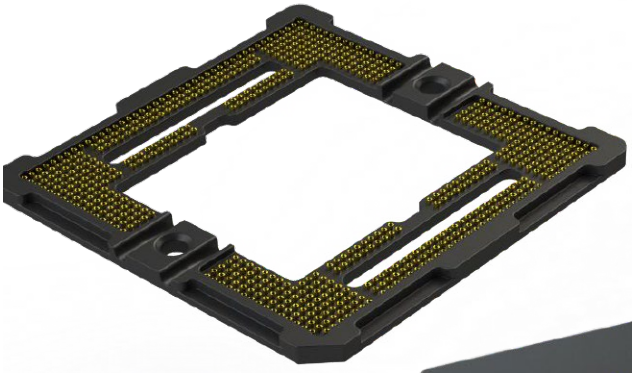


Embedded Interconnect devices

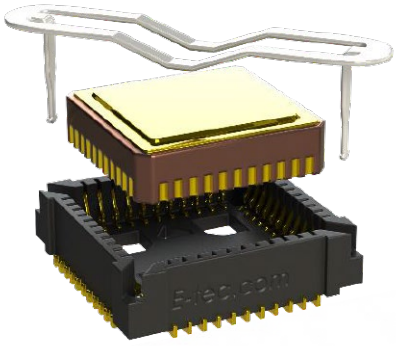
Custom turn pins



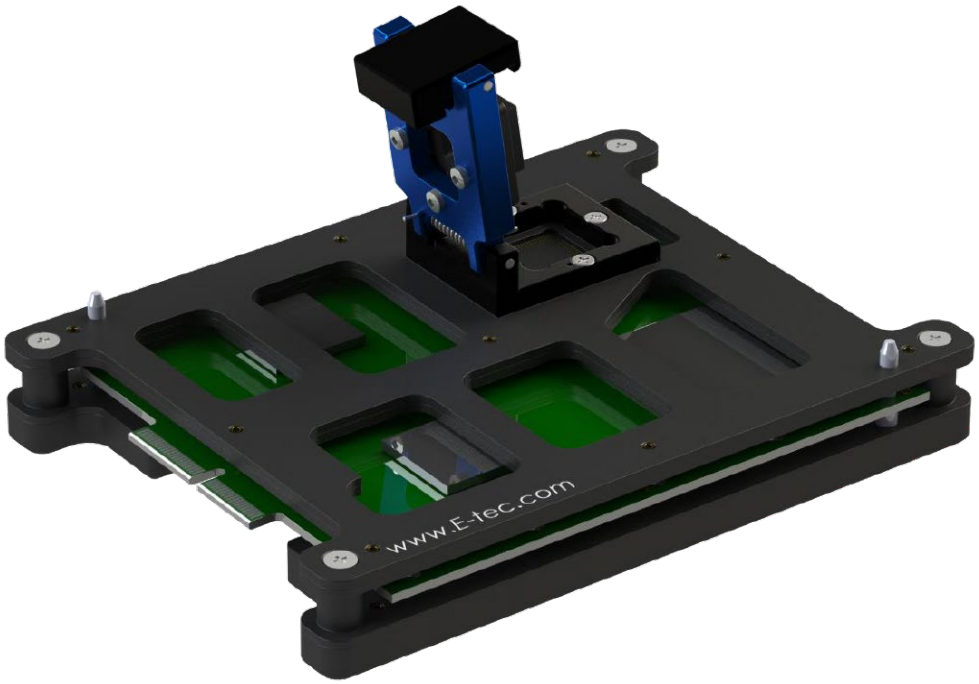
ATE test socket



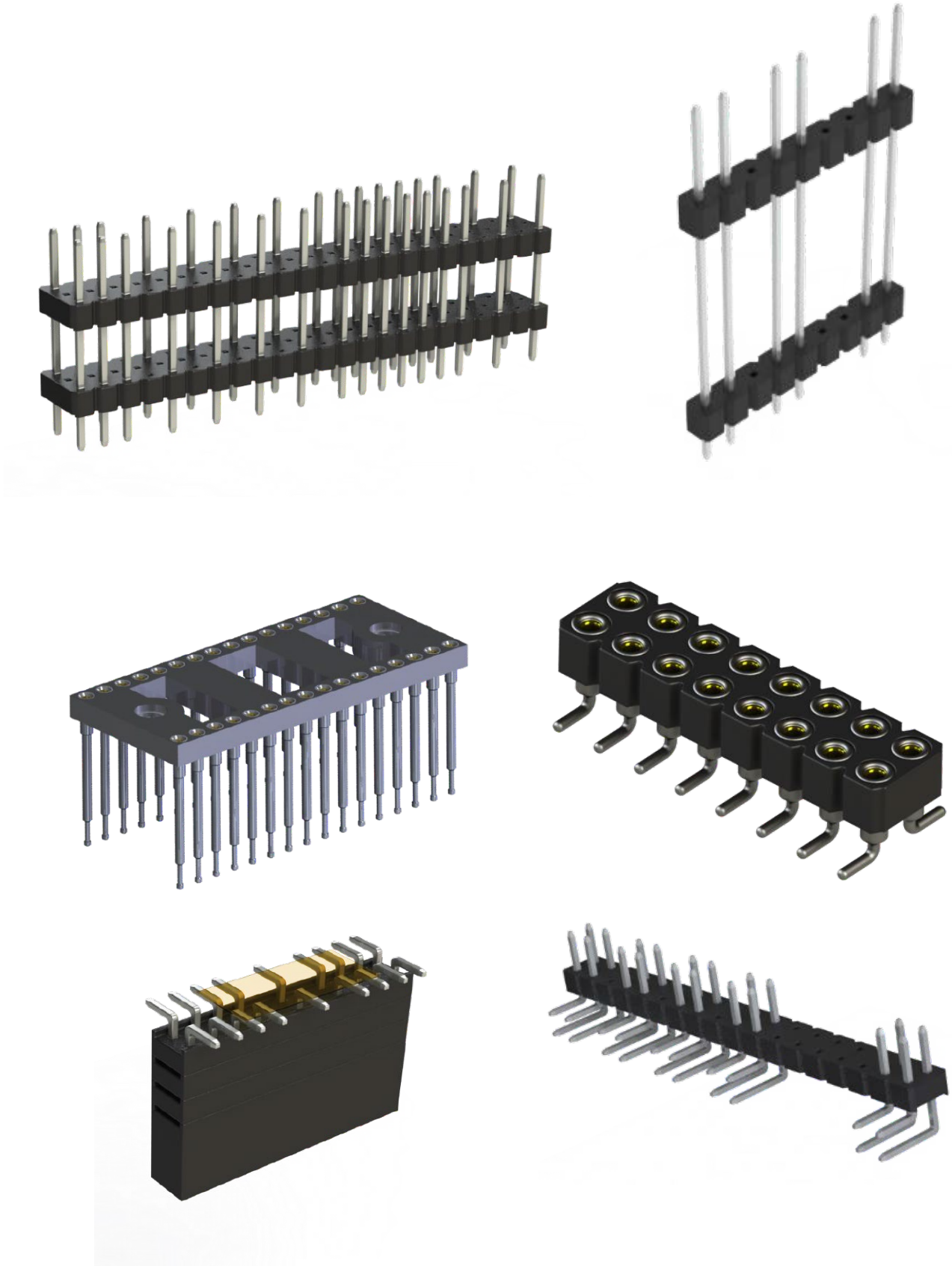
Onboard socket



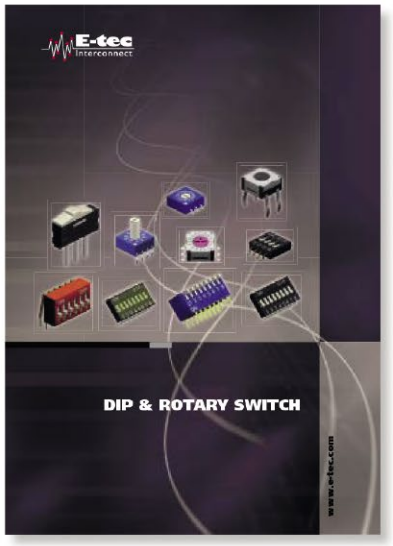
Embedded onboard sensor sockets



Bespoke test socket



Industrial connectors



Your authorised distributor:

The E-tec Group

International Sales Headquarter and Factory

Switzerland

E-tec Interconnect AG
Friedhofstrasse 1
CH-2543 Lengnau b.Biel
Phone: +41 (0) 32 654 15 50
Fax: +41 (0) 32 652 26 93
E-mail: info@e-tec.com
Web: www.e-tec.com

Factory

Taiwan

E-tec Interconnect Asia Ltd.
7F, No. 69, Sec.2, Guangfu Rd.
Sanchong Dist., New Taipei City
24158 Taiwan R.O.C.
Phone: +886 2 2999 2726
Fax: +886 2 2999 5255
E-mail: info@e-tec.asia
Web: www.e-tec-asia.com.tw

Related Sales Headquarters

Germany

EMC
Electro mechanical components GmbH
Deningerstrasse 4a
D-65510 Idstein
Phone: +49 (0) 6126 93 95-0
Fax: +49 (0) 6126 93 95-72
E-mail: info@emc.de
Web: www.emc.de

England

E-tec Interconnect (UK) Ltd
Units A5 & A6 Decimus Park
Kingstanding Way
Tunbridge Wells
Kent TN2 3GP
Phone: +44 (0) 18 92 53 02 60
Fax: +44 (0) 18 92 51 55 60
E-mail: info@e-tec.co.uk
Web: www.e-tec.co.uk

France

Steliau Technology
41-43, rue Périer
92120 Montrouge
Phone: +33 (0) 1 55 58 04 04
Fax: +33 (0) 1 55 58 04 00
e-mail: contact@steliau-technology.com
Web: www.steliau-technology.com

USA / Canada

E-tec Interconnect USA
18615 Arguello Ave
Morgan Hill, CA 95037
Phone: +1 408 778 2800
Fax: +1 408 823 7724
E-mail: info-us@e-tec.com
Web: www.e-tec.us.com

TopLine Corporation
95 Highway 22 W.
Milledgeville, GA 31061
Phone: +1 478 451 5000
Fax: +1 478 451 3000
E-mail: sales@TopLine.tv
Web: www.TopLine.tv

India

E-tec Interconnect AG India
#1/1, Sai Towers, RV Road,
Diagonally OPP to Kamath Hotel
Basvanagudi, BANGALORE - 560004
Phone: +91 (0) 9663112596
E-mail: info.india@e-tec.com
Web: www.e-tec.com