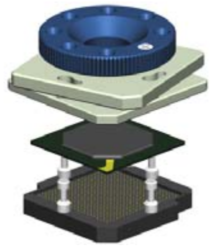
Ball / Land Grid Array Sockets
FastLock Type

RoHS 2002/95/EC compliant

E-tec Interconnect

FastLock Type



E-tec is now the leading BGA socket manufacturer.

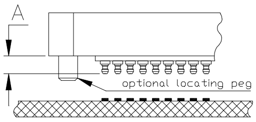
EP patents 0829188, 0897655 US patents 6190181, 6249440 Patented in other countries.

FastLock sockets are available for any chip size and grid pattern. The SMT socket is simply placed and reflowed onto the PCB in the same way as the chip and occupies only a small amount of additional board space. The solderless sockets are mounted with 2 or 4 mounting pegs to the PCB depending on the chip size. The FastLock retainer uses a thumbscrew which does not require any tools for opening/closing of the socket. Torque tools or adjustment of pressdown force are available with this locking system also.

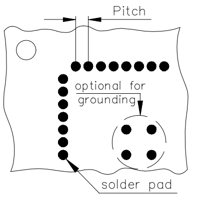
We aim to solve your requirements – your custom sets our standards!

Please note, we will always request the chip data to ensure we offer a compatible socket.

SMT style

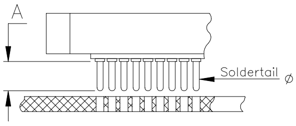


PCB Pad Layout

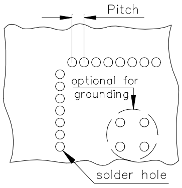


Ø 0,60mm/.024“ if pitch 1,27mm
Ø 0,50mm/.020“ if pitch 1,00mm
Ø 0,40mm/.016“ if pitch 0,80mm
Ø 0,35mm/.014“ if pitch 0,75mm
Ø 0,35mm/.014“ if pitch 0,65mm
Ø 0,30mm/.012“ if pitch 0,50mm

Soldertail style



PCB Pad Layout



Soldertail dimension:

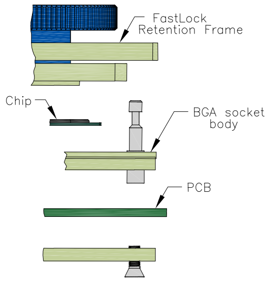
Ø 0,42mm/.016” if pitch 1,27mm
Ø 0,29mm/.011” if pitch 1,00mm
Ø 0,29mm/.011” if pitch 0,80mm
Ø 0,27mm/.010” if pitch 0,75mm
Ø 0,27mm/.010” if pitch 0,65mm
Ø 0,27mm/.010” if pitch 0,50mm
Ø 0,17mm/.007” if pitch 0,40mm

PCB solder hole:

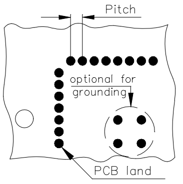
Ø 0,60mm/.024” if pitch 1,27mm
Ø 0,50mm/.020” if pitch 1,00mm
Ø 0,40mm/.016” if pitch 0,80mm
Ø 0,35mm/.014” if pitch 0,75mm
Ø 0,35mm/.014” if pitch 0,65mm
Ø 0,35mm/.014” if pitch 0,50mm
Ø 0,25mm/.010” if pitch 0,40mm

Solderless Compression style

(FastLock Type as example shown)



PCB Pad Layout

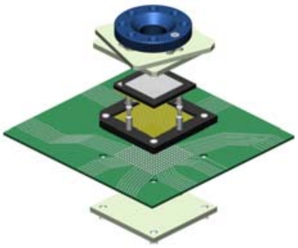


You may request any specific socket dimension from info@e-tec.com

gold plated pads Ø 0,70mm/.027“ if pitch 1,27mm
gold plated pads Ø 0,60mm/.024“ if pitch 1,00mm
gold plated pads Ø 0,50mm/.020“ if pitch 0,80mm
gold plated pads Ø 0,45mm/.018“ if pitch 0,75mm
gold plated pads Ø 0,40mm/.016“ if pitch 0,65mm
gold plated pads Ø 0,35mm/.012“ if pitch 0,50mm
gold plated pads Ø 0,25mm/.010“ if pitch 0,40mm

Solderless Compression Type and other locking systems (on request)

FastLock Type



Important Note:

Please check the ball diameters & heights of your chip prior to ordering the standard E-tec BGA (BPC) sockets. Any deviation has to be communicated to E-tec in order to check compatibility with the standard socket design and if necessary to obtain a special order code adapted to your chip dimensions.
The standard solderball diameters & heights are the following:

Pitch	***ball diameters min/max***	***ball height min/max***
0.50mm	*0.25mm / 0.35mm*	*0.20mm / 0.30mm*
0.65mm	*0.25mm / 0.45mm*	*0.20mm / 0.30mm*
0.75mm	*0.25mm / 0.45mm*	*0.20mm / 0.40mm*
0.80mm	*0.40mm / 0.55mm*	*0.25mm / 0.45mm*
1.00mm	*0.50mm / 0.70mm*	*0.30mm / 0.50mm*
1.27mm & higher	*0.60mm / 1.00mm*	*0.50mm / 1.00mm*

If the minimum ball diameter of a given chip falls below the above indications, then a BUF socket will generally be proposed.

Specifications

Mechanical data	
Contact life	10.000 cycles min.
Retention system life	10.000 cycles min.
Solderability	as per IEC 60068-2-58
Individual contact force	40 grams max.
Material	
Insulator *(RoHS compliant)*	High temp plastic or epoxy FR4
Terminal *(RoHS compliant)*	Brass
Contact *(RoHS compliant)*	BeCu
Electrical data	
Contact resistance	< 100 mΩ
Current rating	500 mA max.
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 +125°C ; 260°C for 60 sec.

Recommendations: Solder paste – Please use a solder paste w/o any silver! Solder profile – Please refer to our website www.e-tec.com

E-tec solderless sockets are adapted to a standard PCB thickness of 1.60mm. For a different PCB thickness, please inform E-tec first!

SMT FastLock sockets are recommended to be ordered with locating pegs for soldering to the PCB, to avoid the solderjoints from being stressed due to the torque forces applied with this locking system. If used without locating pegs, the life cycle of the socket may be heavily reduced.

For high pincount SMT sockets, E-tec recommends the use of a pluggable thru-hole socket mounted into a MiniGrid Adapter (see also pages 15, 16 & 16a for more details).

How to order

X X F xxxx - xx xx - xx XX xx L ← optional for locating pegs

Device Type

B = Ball Grid
L = Land Grid
C = Column Grid

Socket Type

P = socket for LGA, CGA and BGA chips with standard diameter solderballs (see dimensions in table above)
U = socket for small diameter solderballs

Pitch

04 = 0,40mm
05 = 0,50mm
06 = 0,65mm
07 = 0,75mm
08 = 0,80mm
10 = 1,00mm
12 = 1,27mm
15 = 1,50mm
others on request

Grid Code | **Config Code**

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

Plating

95 = tin/gold *(tin leadfree)*
55 = gold *only for Compression Type*

Nbr of contacts

depends on ballcount of chip

Contact Type

30 = standard SMT...(„A“ = 1,20mm if 1,27mm pitch; 0,80mm if 1,00mm pitch, 0.60 if 0,80mm pitch; 0,40mm if <0.80mm pitch)
29 = raised SMT..(„A“ = 5,00mm if 1,27mm pitch; 3,20mm if 1,00mm pitch; 2,80mm if 0,80mm pitch, 2.30mm if <0.80mm pitch)
28 = special raised SMT - only for 1.00 & 0.80mm pitch........(„A“ = 4,50mm)
70 = standard solder tail...................(„A“ = 3.30 if 1.27mm pitch, 2.80 if 1.00mm or 0.80mm pitch, 2,30mm if <0.80mm pitch)
90 = compression type *(see page 13 for more details)*