

Ball / Land Grid Array Sockets

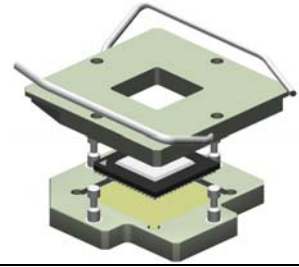
LeverLock Type



E-tec is now the leading BGA socket manufacturer.

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

LeverLock sockets are available for a large variety of chip sizes. 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 1.27mm pitch LeverLock socket extends ≈ 6.00mm beyond the outer ball row with no fixing holes required. We aim to solve your requirements – many different terminals and configurations are available. Your custom sets our standards!



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

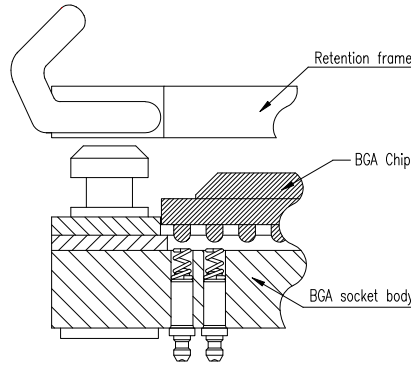
SMT Style

PCB Pad Layout

Pitch depends on your Ball Grid Array

Solder Pad

- 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



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

Important Note:

Please check the ball diameters & heights of your chip prior to ordering the standard E-tec BGA (BCZ, BPZ) 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	0.15mm / 0.30mm
0.65mm	0.25mm / 0.45mm	0.15mm / 0.30mm
0.75mm	0.25mm / 0.45mm	0.15mm / 0.40mm
0.80mm	0.40mm / 0.55mm	0.25mm / 0.45mm
1.00mm	0.50mm / 0.70mm	0.30mm / 0.50mm

1.27mm & 1.50mm

- a) plastic chips (BPZ) 0.60mm / 1.00mm 0.50mm / 0.70mm
- b) ceramic chips (BCZ) 0.60mm / 1.00mm 0.80mm / 1.00mm

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

Soldertail Style

PCB Hole Layout

Pitch depends on your Ball Grid Array

Solder Hole

- Soldertail:**
- 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

Mechanical data

- Contact life 10.000 cycles min.
- Retention system life 1.000 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!

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

For SMT sockets in general, E-tec recommends the use of locating pegs which can be soldered to the PCB for added mechanical strength.

How to order

X X Z **x x x x** - **x x** **x x** - **x x** **X X** **x x** **L** ← optional for locating pegs

Device Type

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

Device Material

- C** = std. socket for ceramic device
- P** = std. socket for plastic device
- U** = socket adapted to small diameter solderballs

Pitch

- 08** = 0,80mm
- 10** = 1,00mm
- 12** = 1,27mm
- 15** = 1,50mm

others on request

Grid Code | **Config Code**

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

Chips with dimensions over 35x35mm: LeverLock not available.

Chips with dimensions below 21x21mm: please contact E-tec for availability first.

Plating

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

Nbr of contacts

Depends on ballcount of chip. For chips with ballcount < 100 or > 200 please contact E-tec for availability first

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** = solderless compression type sockets (see page 13 for more details)