

Ball / Land Grid Array Sockets QuickLock Type



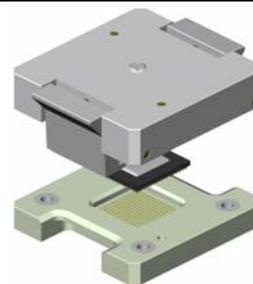
E-tec is now the leading BGA socket manufacturer.

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

QuickLock sockets are available for any chip size and grid pattern. They are available in SMT, thru-hole and solderless compression type versions. The SMT 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. A lever is added to the QuickLock retention cover if the pincount exceeds 81 pins which allows the required pressdown forces to be applied easily.

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 | Soldertail style | Solderless Compression style |
|--|--|--|
| <p>PCB Pad Layout</p> <p>Pitch</p> <p>solder pad</p> <p>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</p> | <p>PCB Hole Layout</p> <p>Pitch</p> <p>solder hole</p> <p>Soldertail dimension:</p> <p>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</p> <p>PCB solder hole:</p> <p>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</p> | <p>You may request any specific socket dimension from info@e-tec.com</p> <p>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</p> |

| Important Note: | Specifications | | | | | | | | | | | | | | | | | | | | | |
|--|------------------------|------------------------|---------------------|--------|-----------------|-----------------|--------|-----------------|-----------------|--------|-----------------|-----------------|--------|-----------------|-----------------|--------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| <p>Please check the ball diameters & heights of your chip prior to ordering the standard E-tec BGA (BPQ) 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.</p> <p>The standard solderball diameters & heights are the following:</p> <table border="1"> <thead> <tr> <th>Pitch</th> <th>ball diameters min/max</th> <th>ball height min/max</th> </tr> </thead> <tbody> <tr> <td>0.50mm</td> <td>0.25mm / 0.35mm</td> <td>0.20mm / 0.30mm</td> </tr> <tr> <td>0.65mm</td> <td>0.25mm / 0.45mm</td> <td>0.20mm / 0.30mm</td> </tr> <tr> <td>0.75mm</td> <td>0.25mm / 0.45mm</td> <td>0.20mm / 0.40mm</td> </tr> <tr> <td>0.80mm</td> <td>0.40mm / 0.55mm</td> <td>0.25mm / 0.45mm</td> </tr> <tr> <td>1.00mm</td> <td>0.50mm / 0.70mm</td> <td>0.30mm / 0.50mm</td> </tr> <tr> <td>1.27mm & higher</td> <td>0.60mm / 1.00mm</td> <td>0.50mm / 1.00mm</td> </tr> </tbody> </table> <p>If the minimum ball diameter of a given chip falls below the above indications, then a BUQ socket will generally be proposed.</p> | 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 | <p>Mechanical data</p> <p>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.</p> <p>Material</p> <p>Insulator (RoHS compliant): High temp plastic or epoxy FR4 Terminal (RoHS compliant): Brass Contact (RoHS compliant): BeCu</p> <p>Electrical data</p> <p>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</p> <p>Operating temperature</p> <p>-55°C to +125°C ; 260°C for 60 sec.</p> |
| 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 | | | | | | | | | | | | | | | | | | | | |

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 10, 11 & 12 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 Q **x x x x** - **xx** **xx** - **xx** **xx** **xx** **xx** **L** ← optional for locating pegs

| | | | | |
|---|---|---|--|---|
| <p>Device Type</p> <p>B = Ball Grid L = Land Grid C = Column Grid</p> | <p>Socket Type</p> <p>P = socket for LGA, CGA and BGA chips with standard diameter solderballs (see dimensions in table above) U = socket for small diameter solderballs</p> | <p>Pitch</p> <p>04 = 0,40mm 05 = 0,50mm 06 = 0,65mm 07 = 0,75mm 08 = 0,80mm</p> <p>10 = 1,00mm 12 = 1,27mm 15 = 1,50mm others on request</p> | <p>Grid Code Config Code</p> <p>will be given by the factory after receipt of the chip datasheet</p> <p>Chips with dimensions over 36x36mm: please contact E-tec for availability first.</p> | <p>Plating</p> <p>95 = tin/gold (tin leadfree) 55 = gold only for Compression Type</p> |
|---|---|---|--|---|

| | |
|---|---|
| <p>Nbr of contacts</p> <p>depends on ballcount of chip</p> | <p>Contact Type</p> <p>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 & 91 = compression type (see page 8 for more details)</p> |
|---|---|