

# Ball / Land Grid Array Sockets Twist Lock Type



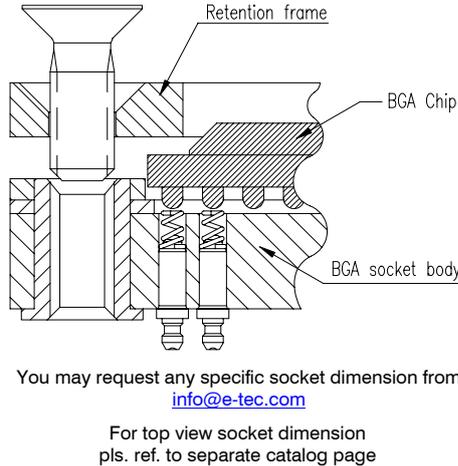
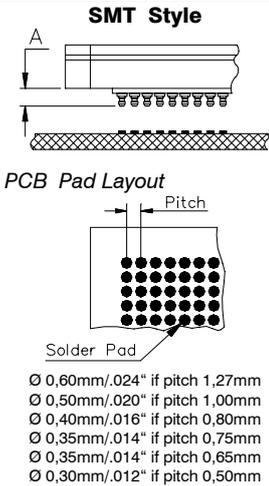
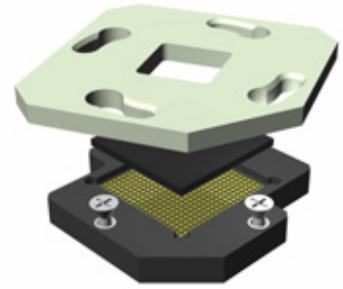
**E-tec is now the leading BGA socket manufacturer.**

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

Twist lock 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 1.27mm pitch screw lock socket extends ≈ 6,00 mm beyond the outer ball row with no fixing holes.

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.**



**Important Note:**

Please check the ball diameters & heights of your chip prior to ordering the standard E-tec BGA (BPW, BCW) 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.

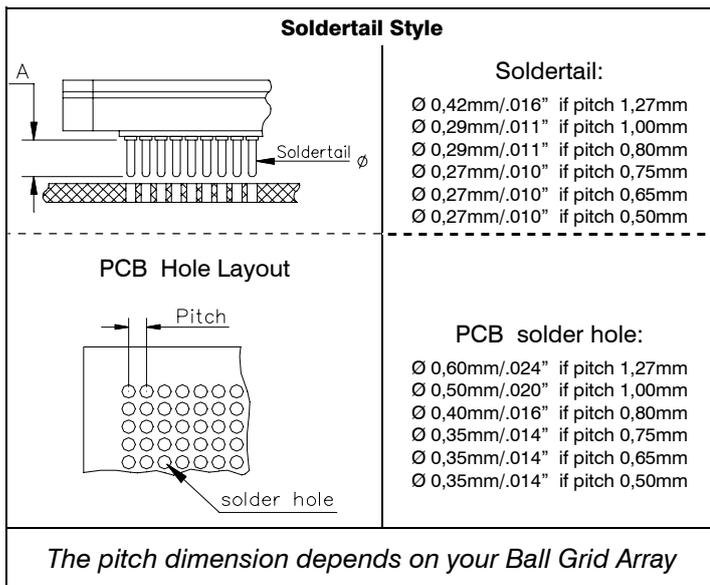
The standard solderball diameters & heights are the following:

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 (BPW) 0.60mm / 1.00mm 0.50mm / 0.70mm
- b) ceramic chips (BCW) 0.60mm / 1.00mm 0.80mm / 1.00mm

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



**Mechanical data**

- Contact life
- Retention System life
- Solderability
- Individual contact force
- Max. torque for retention screws

**Specifications**

- 10.000 cycles min.
- 1.000 cycles min.
- exceeds MIL-STD-202 Method 208
- 40 grams max.
- up to 800 pins = 7cNm or 10 oz-inch
- as of 800 pins = 7cNm to 10cNm or 10 oz to 14 oz-inch

**Material**

- Insulator (RoHS compliant)
- Terminal (RoHS compliant)
- Contact (RoHS compliant)

- High temp plastic or epoxy FR4
- Brass
- 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**

- Torque limiting screw driver
- Solder paste
- Solder profile

- Refer to page "Tools" of this catalog
- Please use a solder paste w/o any silver!
- Please refer to our website [www.e-tec.com](http://www.e-tec.com)

**How to order**

X X W x x x x - x x x x - x x X X 95 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**

<b>05</b> = 0,50mm	<b>10</b> = 1,00mm
<b>06</b> = 0,65mm	<b>12</b> = 1,27mm
<b>07</b> = 0,75mm	<b>15</b> = 1,50mm
<b>08</b> = 0,80mm	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)

**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)