

Ball / Land Grid Array Sockets

Twist Lock Type



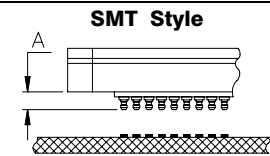
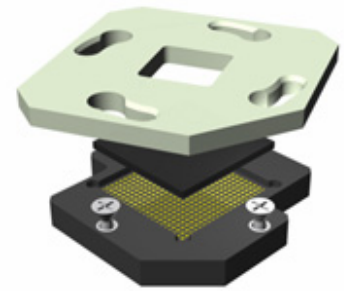
E-tec is now the leading BGA socket manufacturer.

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

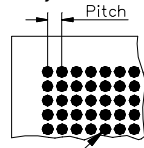
Twist lock sockets are available for any chip size and grid pattern. The SMT socket is simply placed and reflowed onto the PCB in the same way as the chip and occupies only a small amount of additional board space. The 1.27mm pitch screw lock socket extends ≈ 6,00 mm beyond the outer ball row with no fixing holes.

We aim to solve your requirements - many different terminals and configurations are available. Your custom sets our standards!

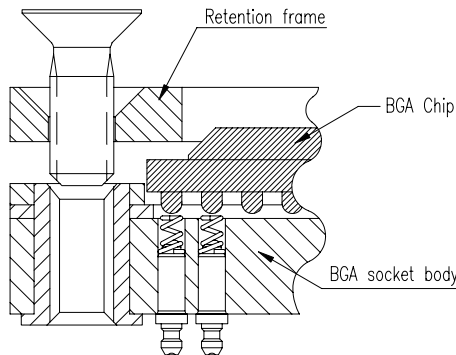
Please note, we will always request the chip data to ensure we offer a compatible socket.



PCB Pad Layout



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

For top view socket dimension pls. ref. to separate catalog page

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.

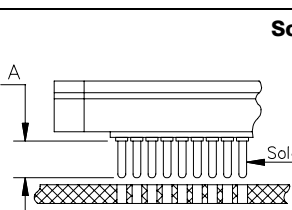
The standard solderball diameters & heights are the following:

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.

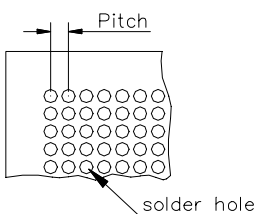


Solder tail Style

Solder tail:

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

PCB Hole Layout



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

The pitch dimension depends on your Ball Grid Array

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
 Current rating
 Insulation resistance at 500V DC
 Breakdown voltage at 60 Hz
 Capacitance
 Inductance

< 100 mΩ
 500 mA max.
 100 MΩ if 0.50 to 0.80mm pitch
 500 MΩ 1.00mm pitch upwards
 500V min.
 < 1 pF
 < 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

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

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

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

Config Code

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)