Ball / Land Grid Array Sockets
TwistLock Type

RoHS 2002/95/EC compliant

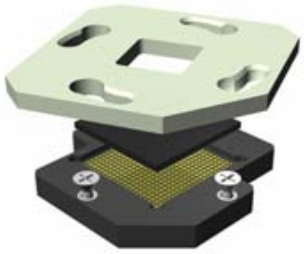
E-tec Interconnect

E-tec is now the leading BGA socket manufacturer.

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

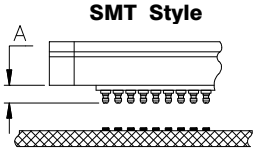
TwistLock sockets are generally chosen when relatively low insertion / extraction cycles are required and when the cost of the socket is a predominant factor. The TwistLock socket extends by around 6.00mm beyond the outer ball row and special clearances can be offered on request.

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

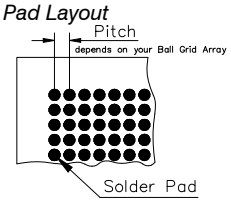


Please note, we will always request the chip data to ensure we offer a compatible socket.

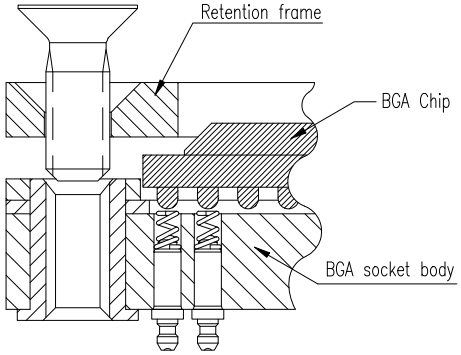
SMT Style



PCB Pad Layout



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

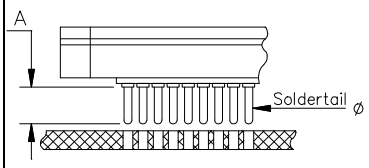
For top view socket dimension
pls. ref. to separate catalog page

Important Note:
Please check the ball diameters & heights of your chip prior to ordering the standard E-tec BGA (BPW) 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*

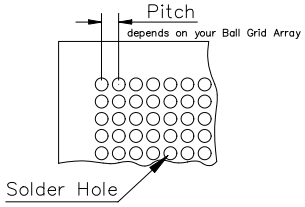
If the minimum ball diameter of a given chip falls below the above indications, then a BUW socket will generally be proposed.

Soldertail Style



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 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
Ø 0,25mm/.010” if pitch 0,40mm

Specifications

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.
Max. torque for retention screws	up to 800 pins = 7cNm or 10 oz-inch as of 800 pins = 7cNm to 10cNm or 10 oz-inch to 14 oz-inch
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 0.50mm 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 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 W xxxx - xx xx - xx XX 95 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	**10**	= 1,00mm
05	= 0,50mm	**12**	= 1,27mm
06	= 0,65mm	**15**	= 1,50mm
07	= 0,75mm	*others on request*	
08	= 0,80mm		

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)
90 & **91** = compression type *(see page 8 for more details)*