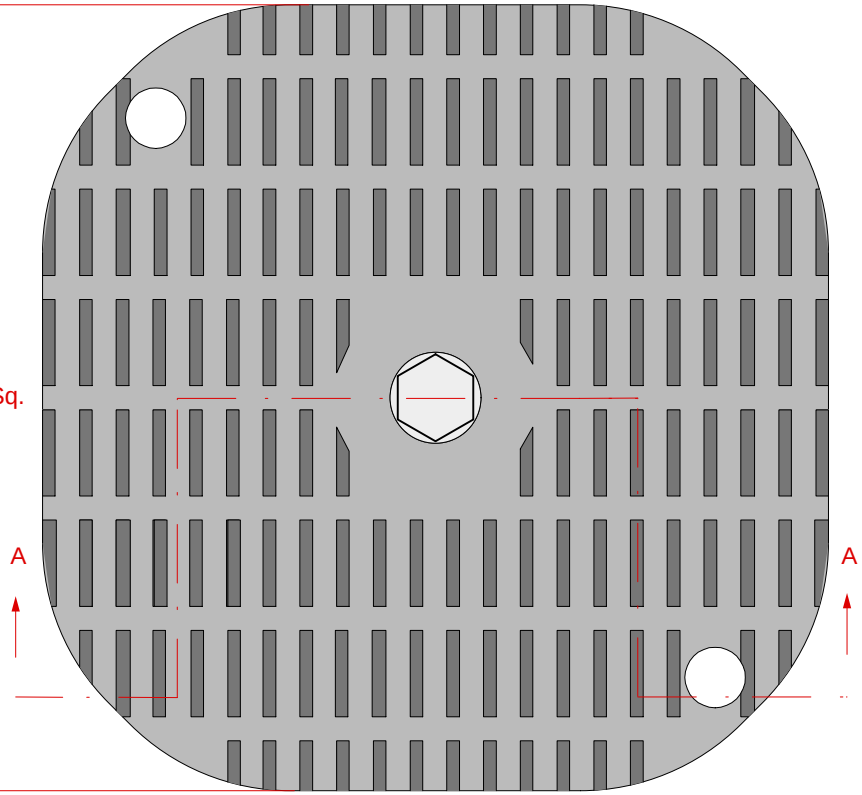
GHz BGA Socket - Direct mount, solderless

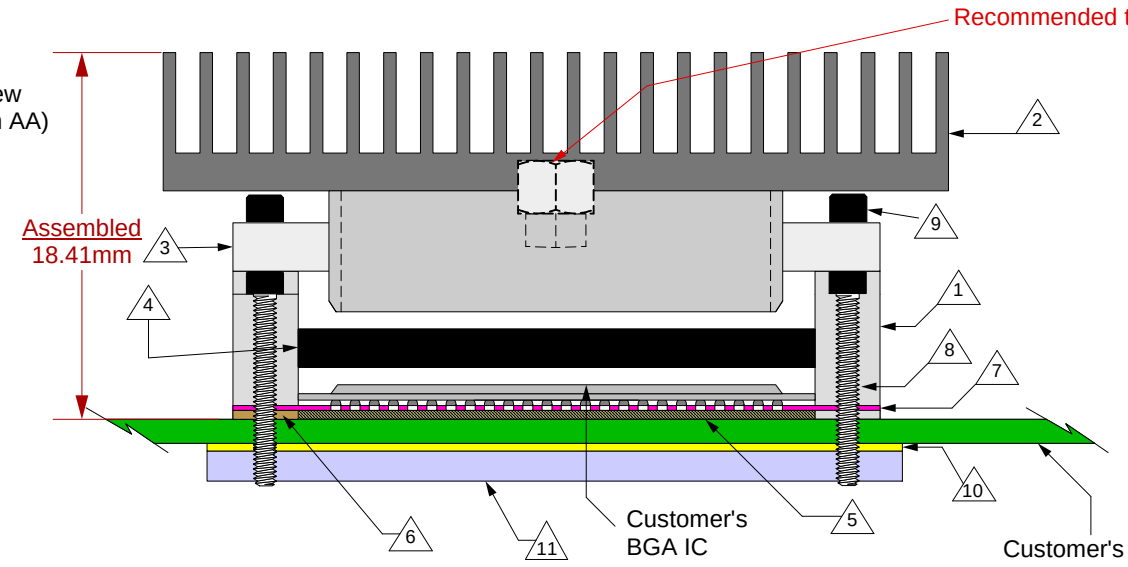
Top View
(without fan)



Features

- Directly mounts to target PCB (needs tooling holes) with hardware.
- High speed, reliable Elastomer connection
- Minimum real estate required
- Compression plate distributes forces evenly
- Ball guide prevents over compression of elastomer
- Easily removable swivel socket lid

Side View
(Section AA)



1	Socket base: Black anodized Aluminum. Thickness = 6.5mm.
2	Heat Sink: Black anodized Aluminum.
3	Socket Lid: Black anodized aluminum Thickness 2.5mm
4	Compression plate: Black anodized aluminum Thickness 2.5mm
5	Elastomer: 20 micron dia gold plated brass filaments arranged symmetrically in a silicone rubber (63.5 degree angle). Thickness = 0.5mm.
6	Elastomer Guide: Cirlex or equivalent. Thickness = 0.475mm.
7	Ball Guide: Kapton polyimide.
8	Socket base screw: Socket head cap, alloy steel with black oxide finish, 0-80 fine thread , 15.875mm long.
9	Socket lid screw: Shoulder Screw, 18-8 SS, 0-80 fine thread.
10	Insulation Plate: FR4/G10, 1.59mm thick.
11	Backing Plate: Black anodized Aluminum. Thickness = 6.35mm.

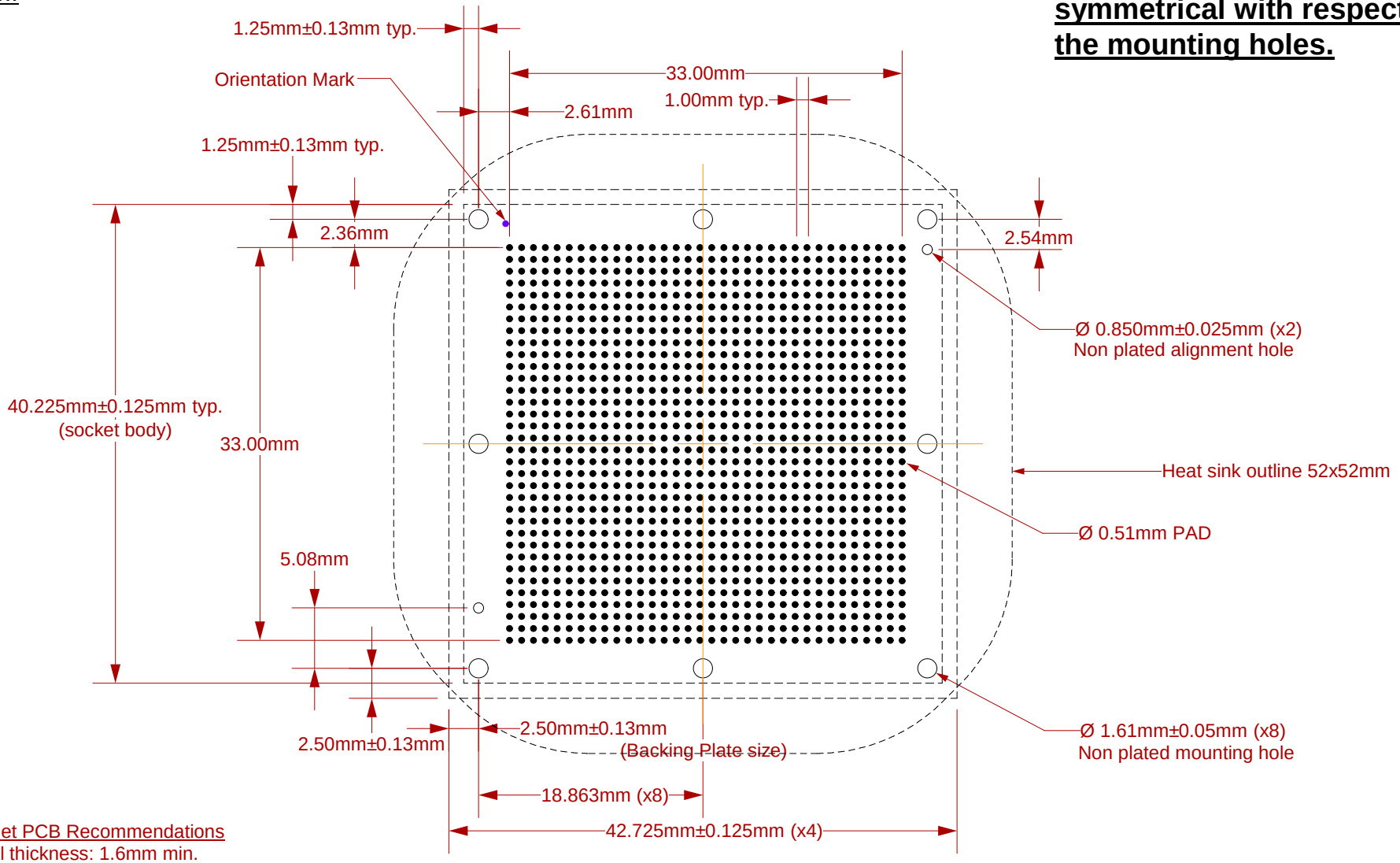
Fan Included: 45x45x10mm

SG-BGA-8019 Drawing	Status: Released	Scale: -	Rev: A
 11351 Rupp Drive, Suite 400, Burnsville, MN 55337 Tele: (952) 229-8200 www.ironwoodelectronics.com	Drawing: Ranjit Patil	Date: 06/24/09	
	File: SG-BGA-8019 Dwg.mcd	Modified:	

All tolerances: ±0.125mm (unless stated otherwise). Materials and specifications are subject to change without notice.

Recommended PCB Layout
Top View

Note: BGA pattern is not symmetrical with respect to the mounting holes.



Target PCB Recommendations
Total thickness: 1.6mm min.
Plating: Gold or Solder finish
PCB Pad height: Same or higher than solder mask

NOTE: Steel backing plate may be required based on end user's application

Recommended PCB Layout Tolerances: ±0.025mm [±0.001"] unless stated otherwise.

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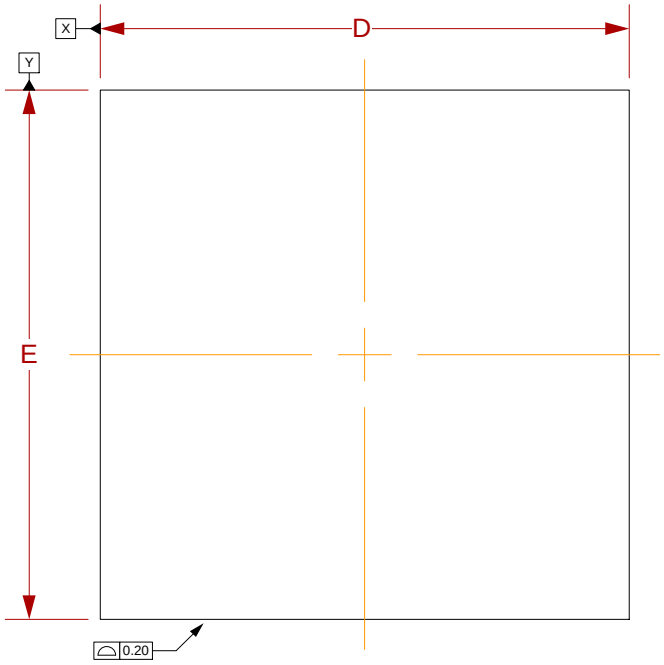
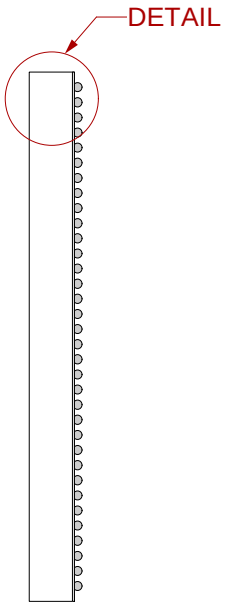
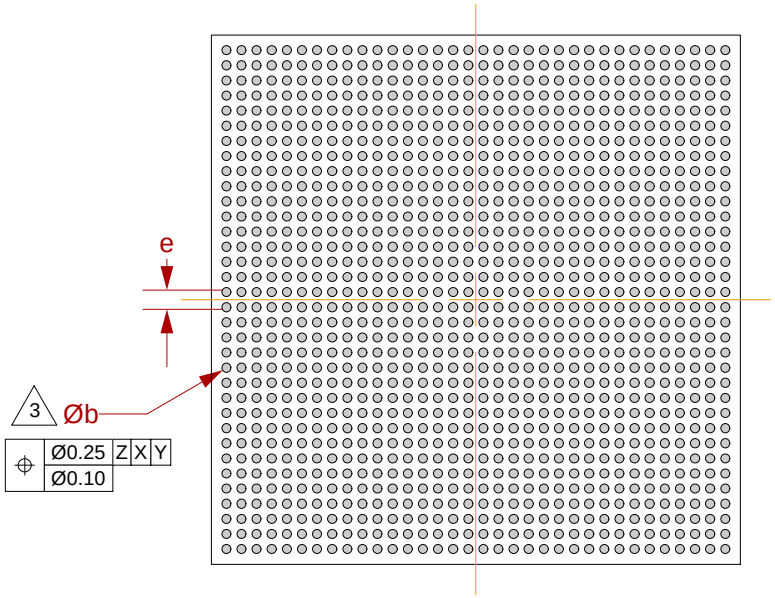


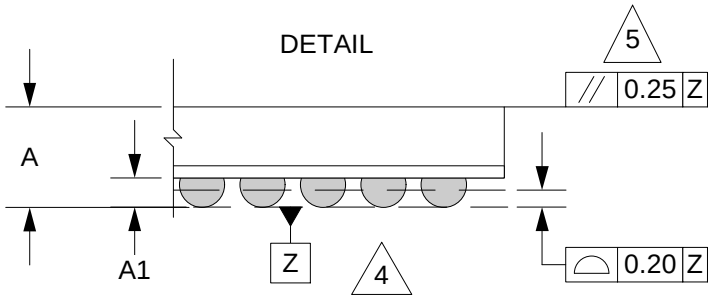
TOP VIEW



SIDE VIEW



BOTTOM VIEW



1. Dimensions are in millimeters.
2. Interpret dimensions and tolerances per ASME Y14.5M-1994.
3. Dimension b is measured at the maximum solder ball diameter, parallel to datum plane Z.
4. Datum Z (seating plane) is defined by the spherical crowns of the solder balls.
5. Parallelism measurement shall exclude any effect of mark on top surface of package.

DIM	MIN	MAX
A		3.42
A1	0.3	
b	0.5	0.7
D	35.0 BSC	
E	35.0 BSC	
e	1.00 BSC	

Array 34x34

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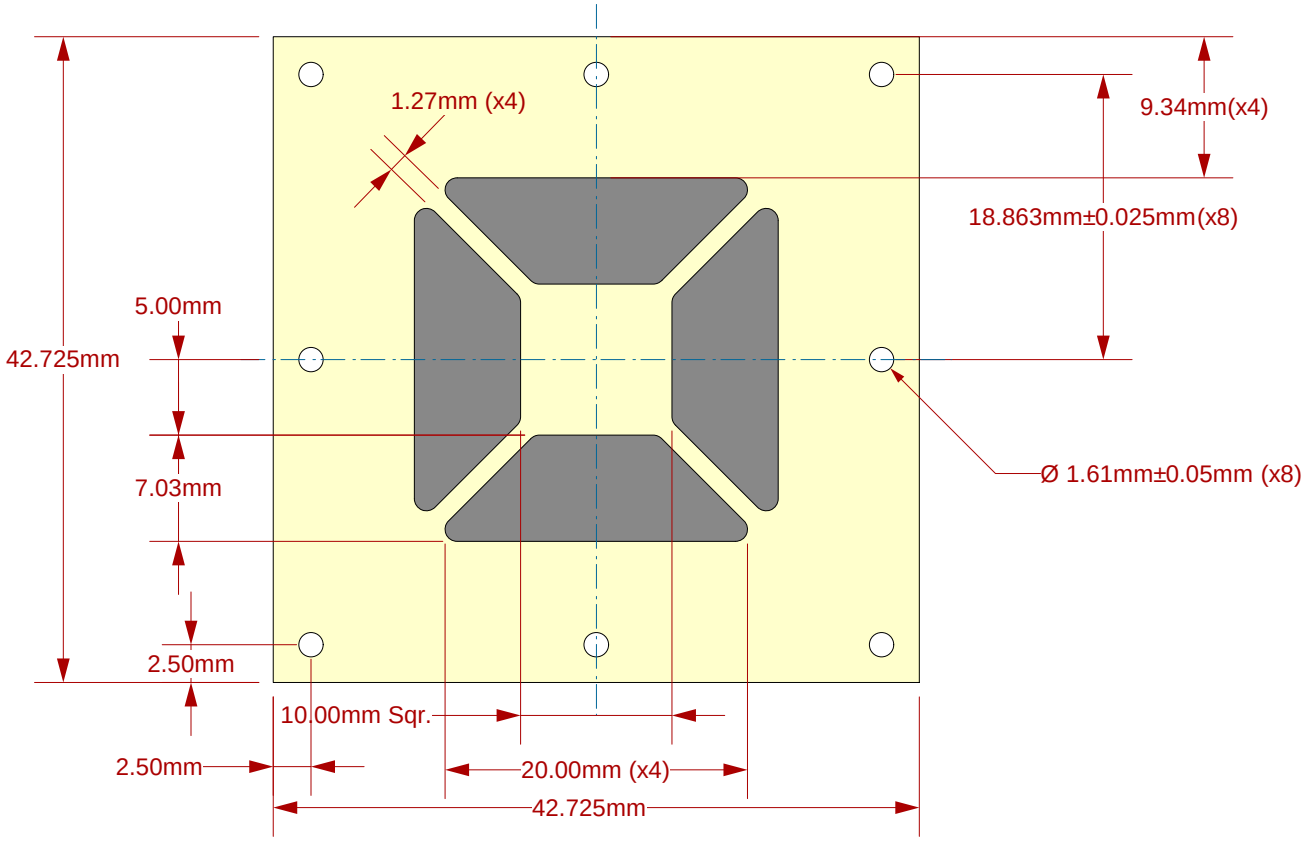
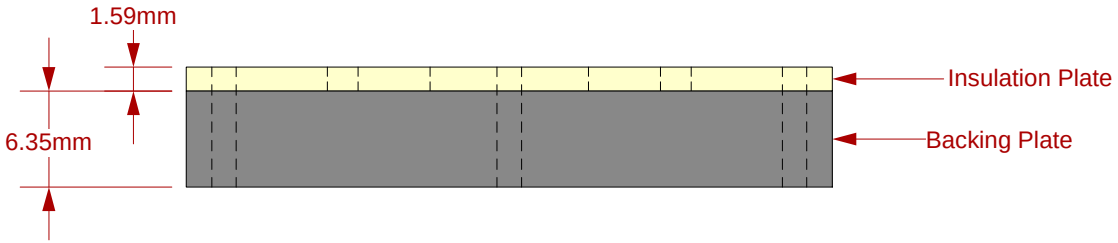
Top View



Side View



Note: Backing plate holes are tapped to accept 0-80 screws.

Description: Insulation Plate and Backing Plate

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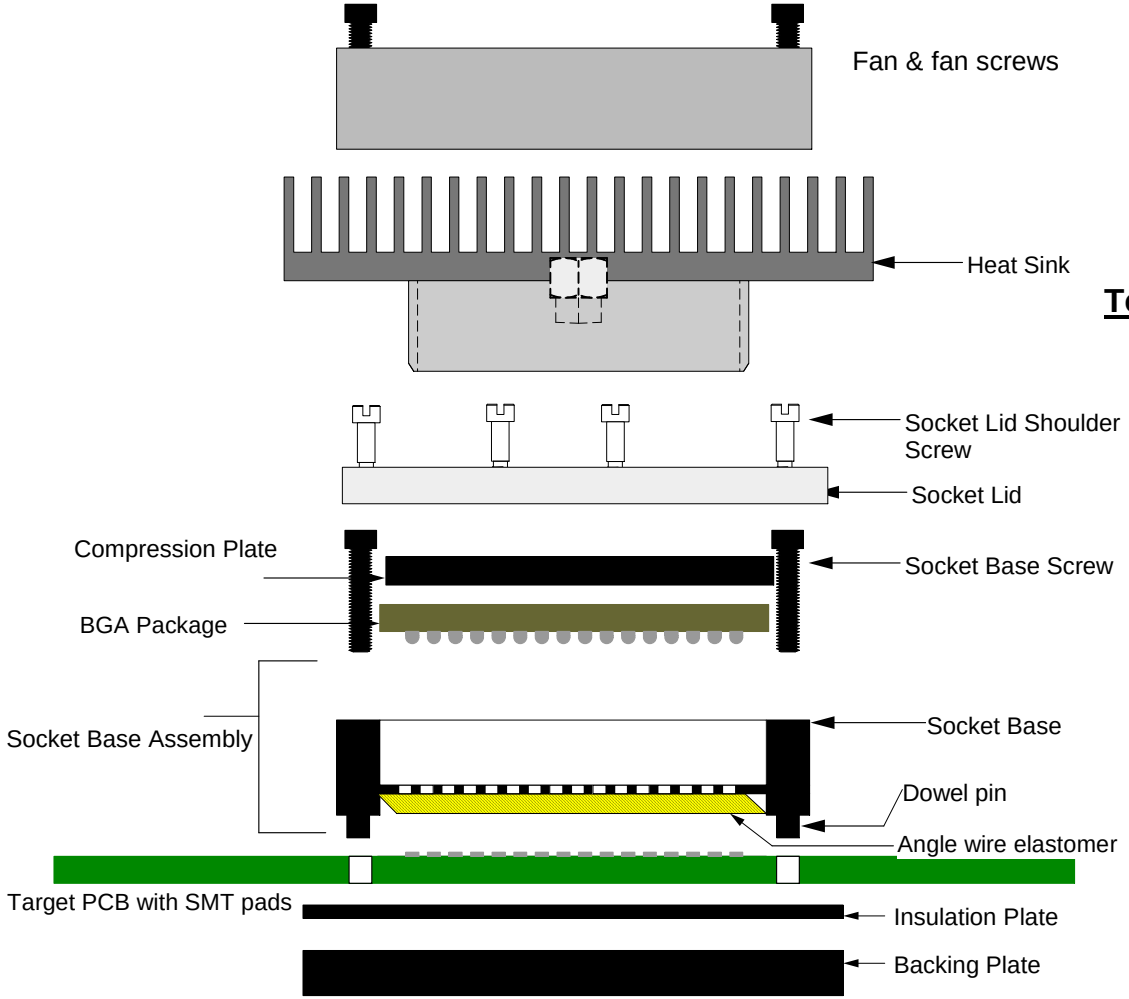
Socket (direct mount - hardware)
User Instructions



<u>Tooling holes have to be designed into the target PCB for this version of the GHz BGA socket</u>

1. Install the socket base assembly on the target PCB with the socket base screws (1 in-lb torque per screw). Check orientation of the socket with respect to the target PCB. Place insulation plate in between target PCB and backing plate. Socket base screws will thread into the backing plate.

2. Place BGA package (solder ball side down) and compression plate into the socket. NOTE: BGA orientation on target PCB is critical.

3. Install the socket lid on to the socket base assembly using socket lid screws.

4. Apply torque on heat sink screw.

5. Mount fan on top of heat sink lid using fan screws.

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