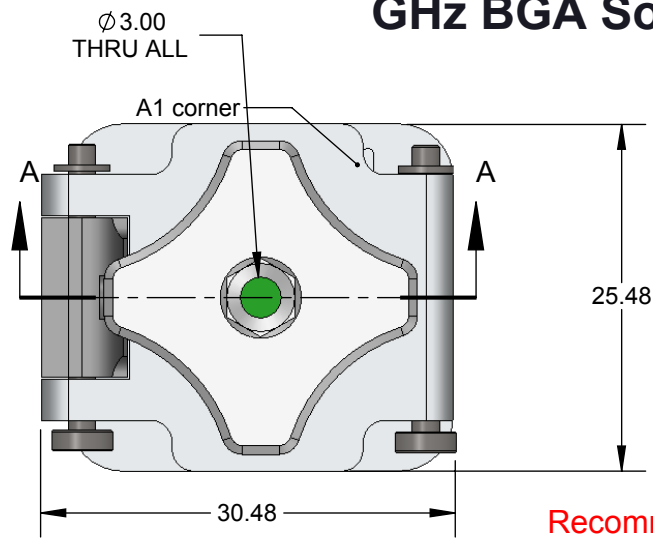


# GHz BGA Socket - Direct mount, solderless

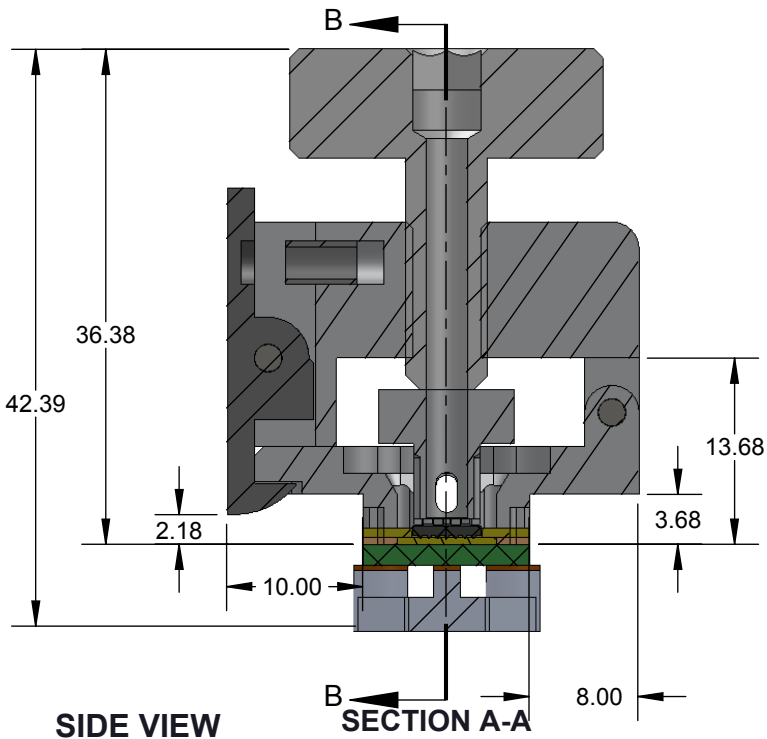
## Features

- Directly mounts to target PCB (needs tooling holes) with hardware
- High speed, reliable Elastomer connection
- Minimum real estate required
- Compression plate distributes forces evenly
- Hinged clamshell socket lid



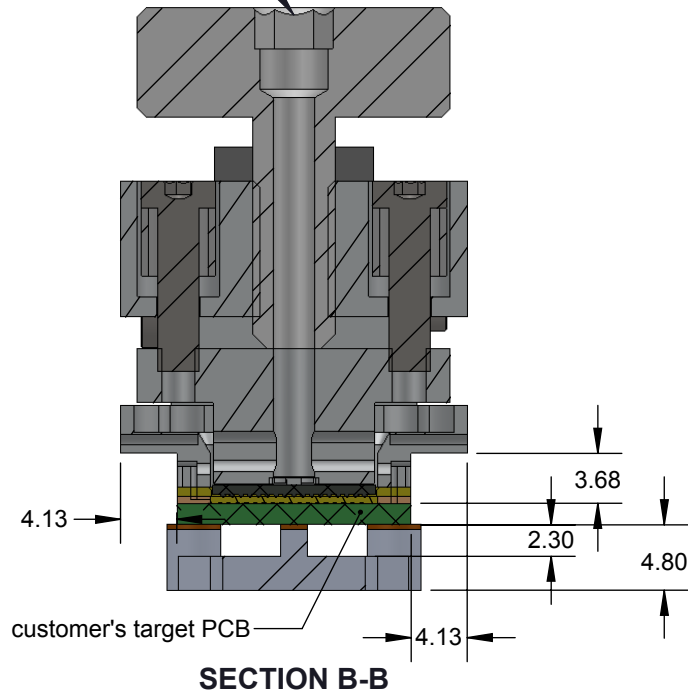
TOP VIEW

Recommended torque is 1 in lb (16 in oz.)

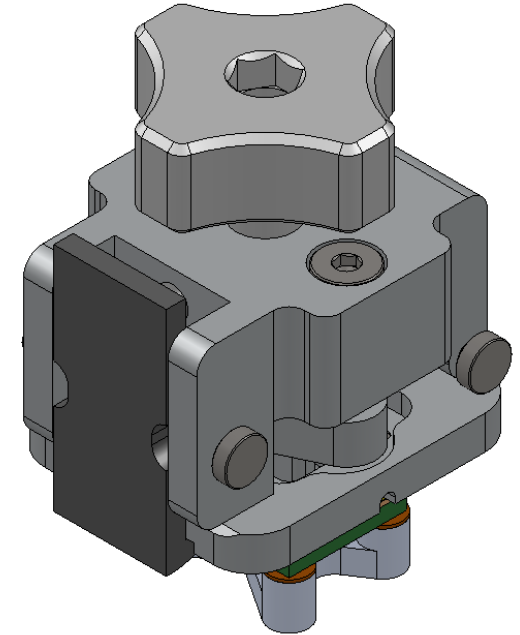


SIDE VIEW

SECTION A-A




SECTION B-B



## Description: Clam shell socket for 12x5mm, 17x7 0.65mm pitch BGA119

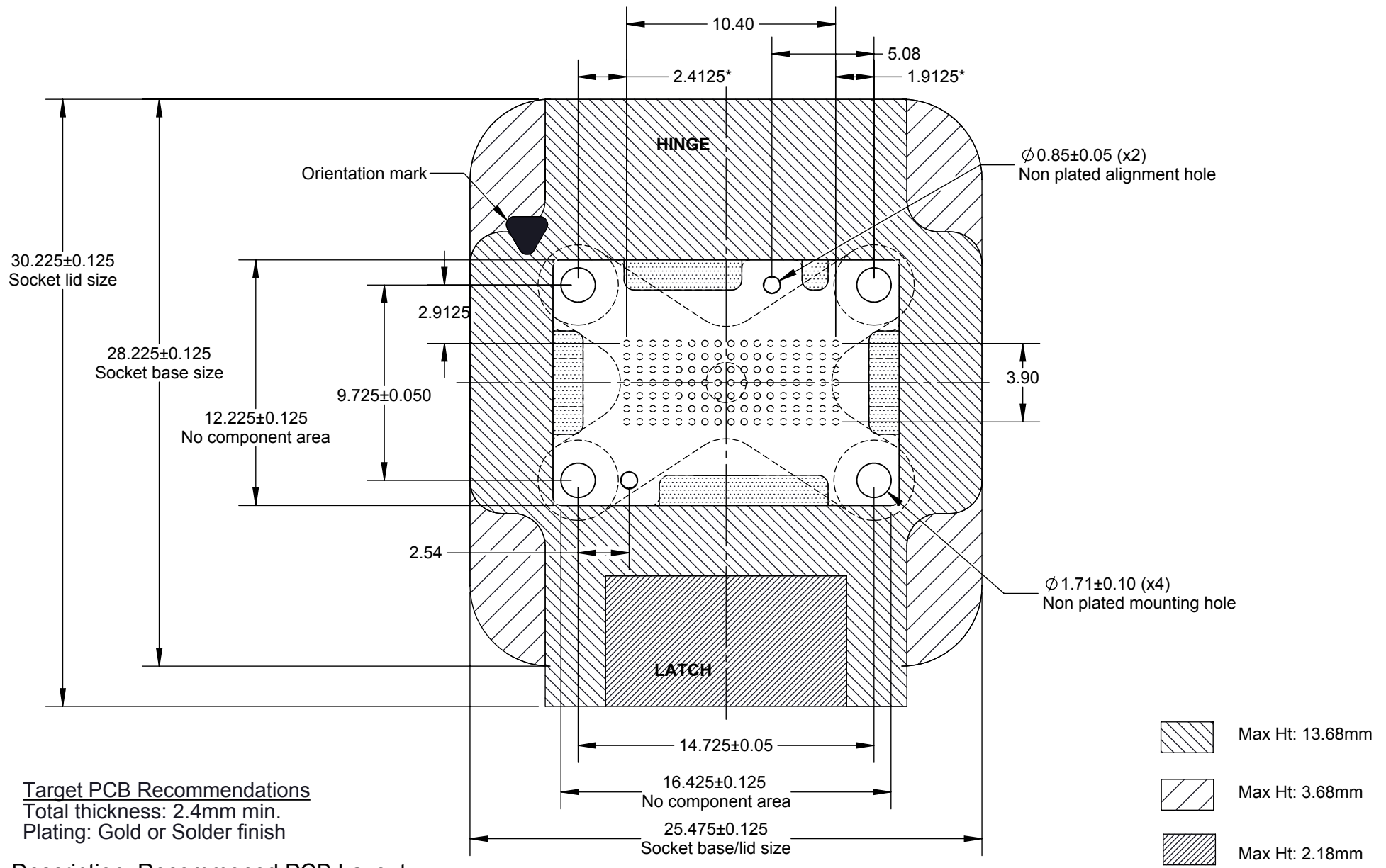
Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released ENG: S. Huang FILE: CG-BGA-5023 Dwg	SHEET: 1 OF 7 DRAWN BY: M. Raske DATE: 02/24/2015	REV. A SCALE: 1.8:1

**\*Note: BGA pattern is not symmetrical with respect to the mounting holes. The pattern is shifted to the top of center by 0.25mm.**


**DOT SHADED AREA DENOTE CUTOUT AREAS IN THE SOCKET BASE, 1.5MM HIGH**

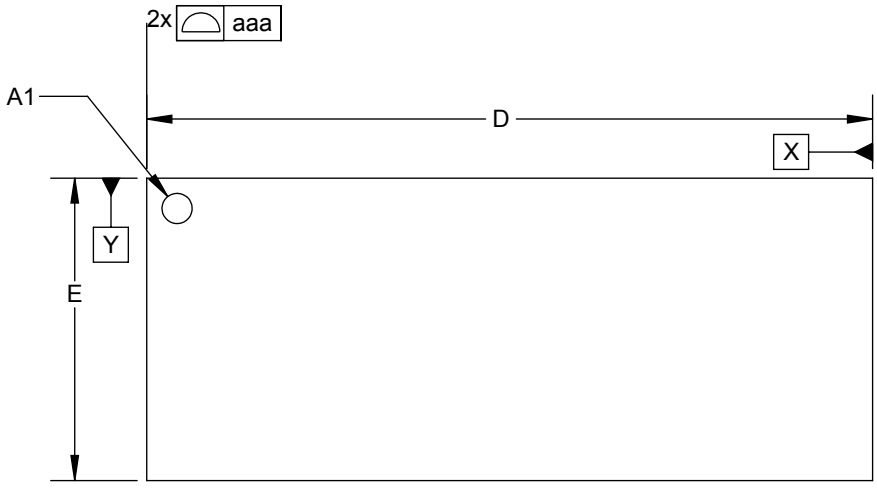


**Target PCB Recommendations**  
 Total thickness: 2.4mm min.  
 Plating: Gold or Solder finish

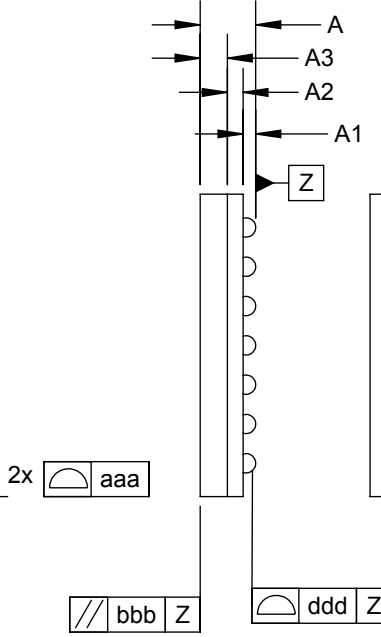
**Description: Recommended PCB Layout**

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.  
 Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

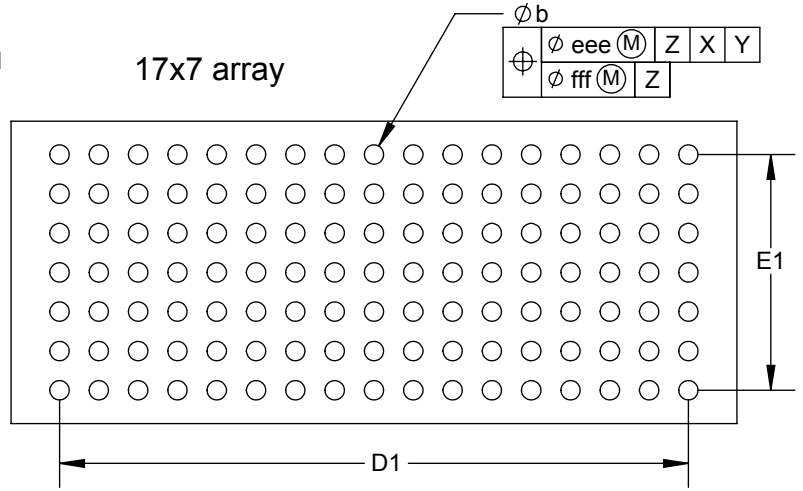
 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released ENG: S. Huang FILE: CG-BGA-5023 Dwg	SHEET: 2 OF 7 DRAWN BY: M. Raske DATE: 02/24/2015	REV. A SCALE: 3.75:1



TOP VIEW



SIDE VIEW




BOTTOM VIEW

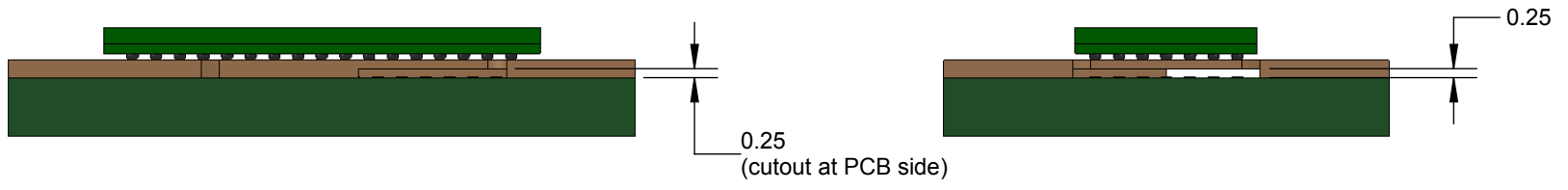
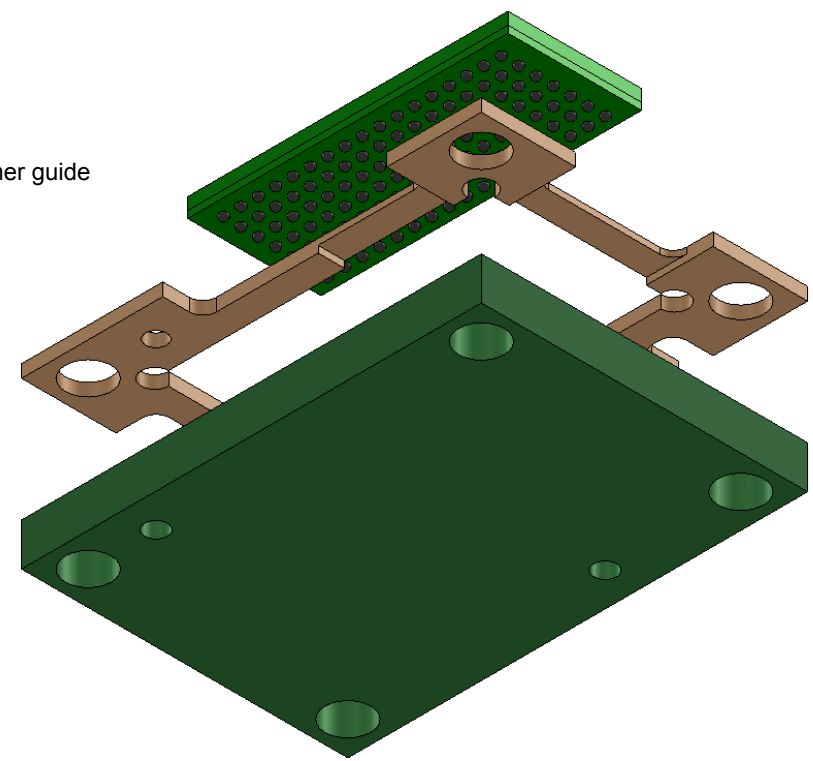
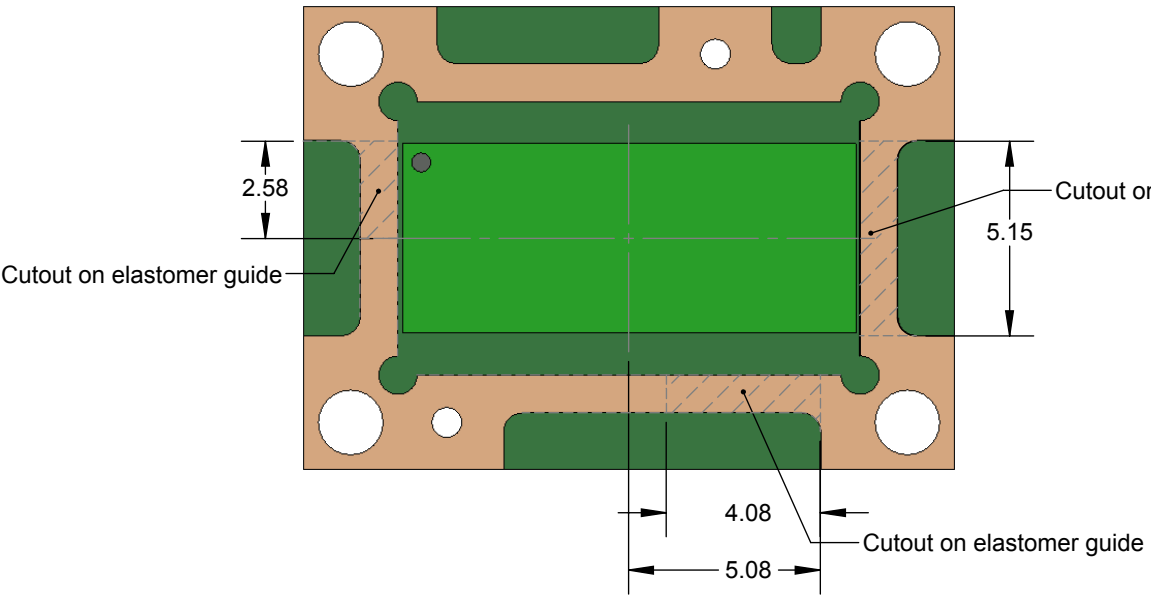
Dimension	Min	Nom	Max
A	-	-	1.00
A1	0.16	-	0.26
A2	0.26 REF		
A3	0.45 REF		
b	0.27	-	0.37
D	12.00 BSC		
D1	10.40 BSC		
E	5.00 BSC		
E1	3.90 BSC		
e	0.65		
aaa	0.10		
bbb	0.10		
ddd	0.08		
eee	0.15		
fff	0.08		

**Ironwood Package Code BGA119**

**Description: Compatible device**


Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.  
 Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001''$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001''$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005''$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

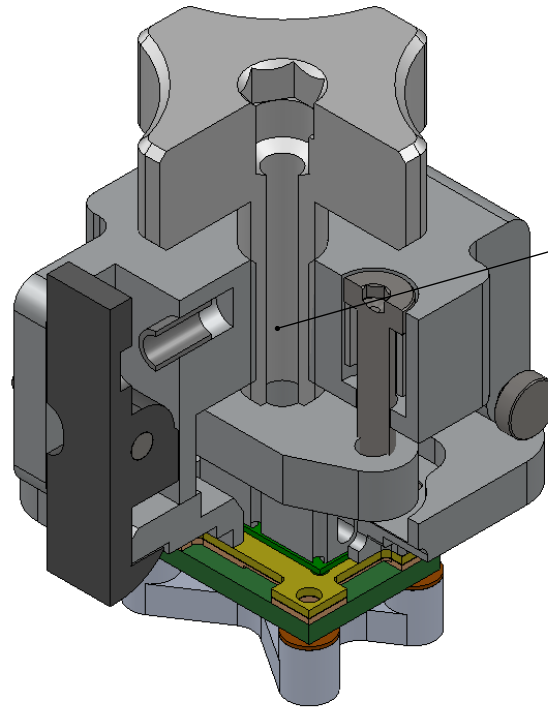
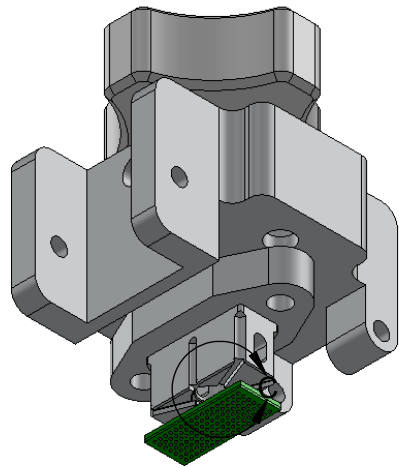
 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released ENG: S. Huang FILE: CG-BGA-5023 Dwg	SHEET: 3 OF 7 DRAWN BY: M. Raske DATE: 02/24/2015	REV. A SCALE: 8:1



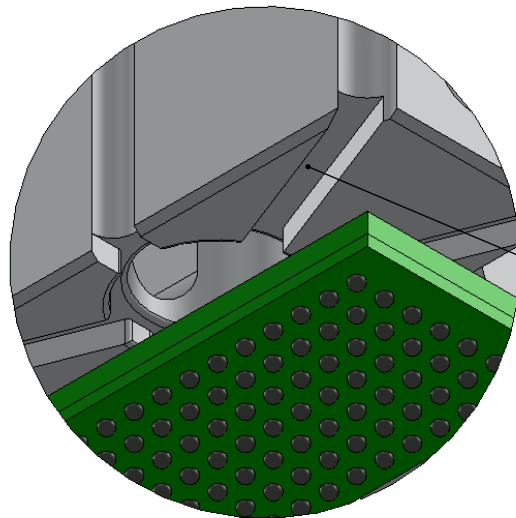
**Description: Detail VW of Elastom GD cut**

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.  
 Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001''$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001''$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005''$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released ENG: S. Huang FILE: CG-BGA-5023 Dwg	SHEET: 4 OF 7 DRAWN BY: M. Raske DATE: 02/24/2015	REV. A SCALE: 5:1

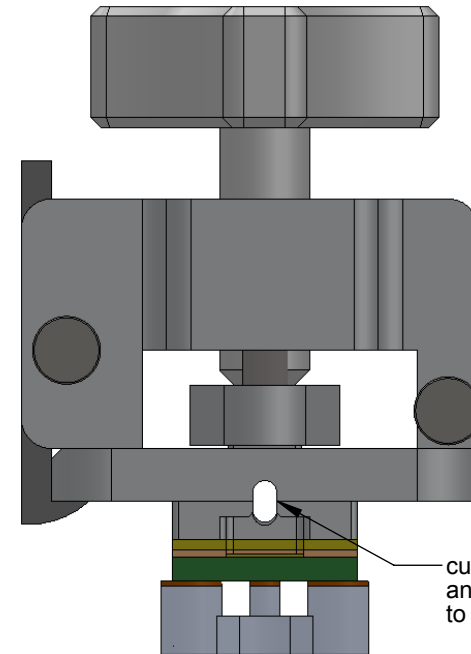


Thru hole on compression screw and compression plate



Cutout for air flow on top of IC package

**DETAIL C**  
**SCALE 8 : 1**




cutout on socket base and compression plate to allow air flow

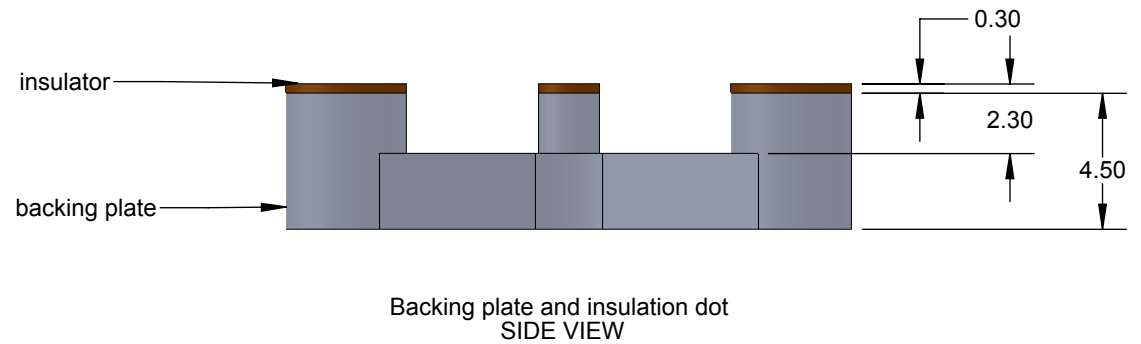
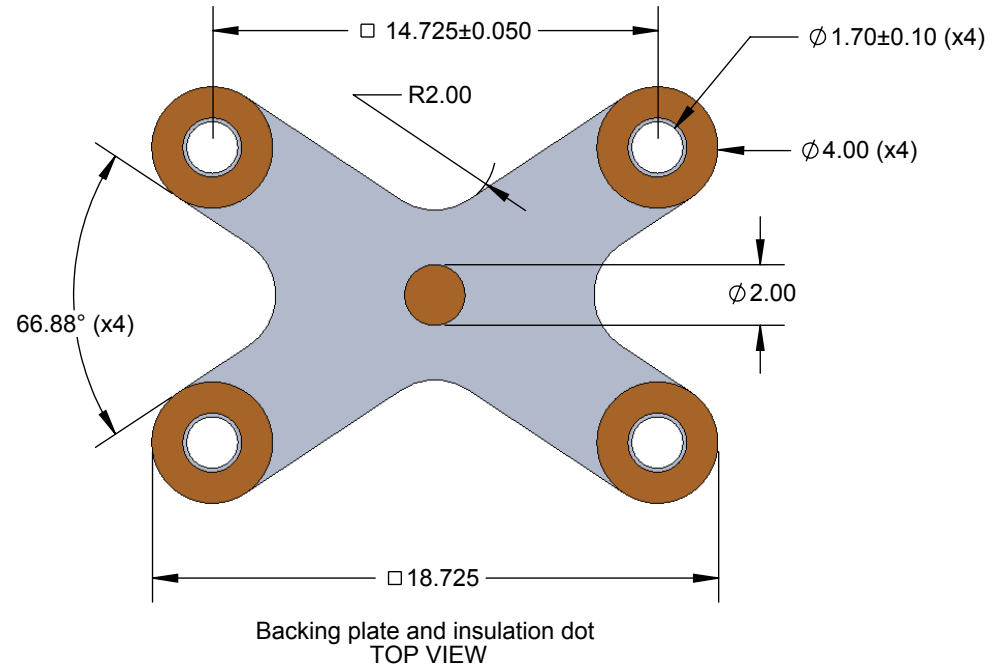
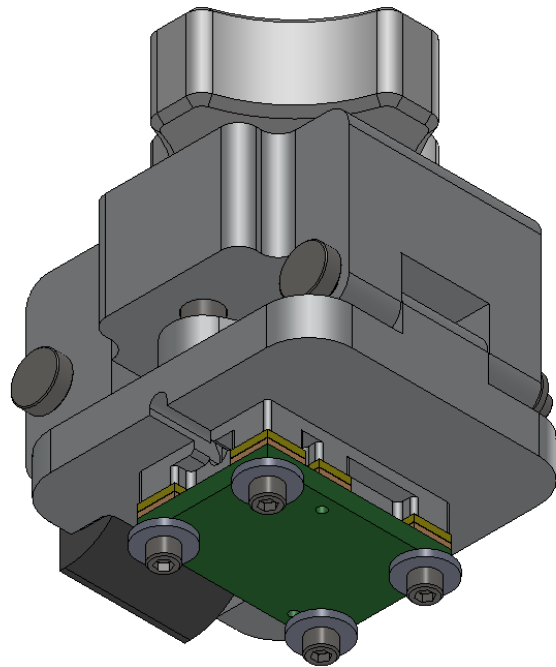
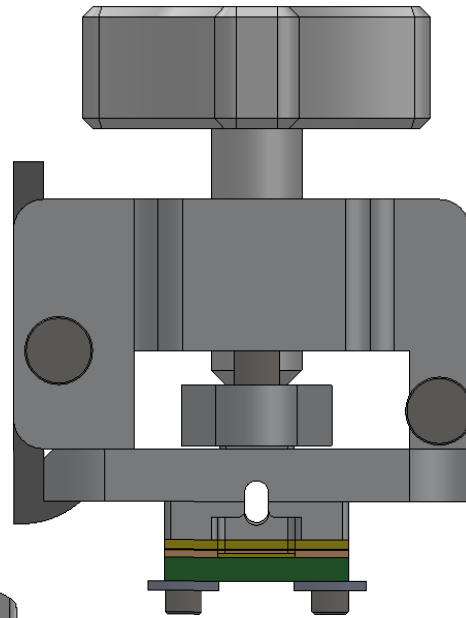
**Description: Compression plate details**

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released ENG: S. Huang FILE: CG-BGA-5023 Dwg	SHEET: 5 OF 7 DRAWN BY: M. Raske DATE: 02/24/2015	REV. A SCALE: 2:1


# Socket without backing plate option

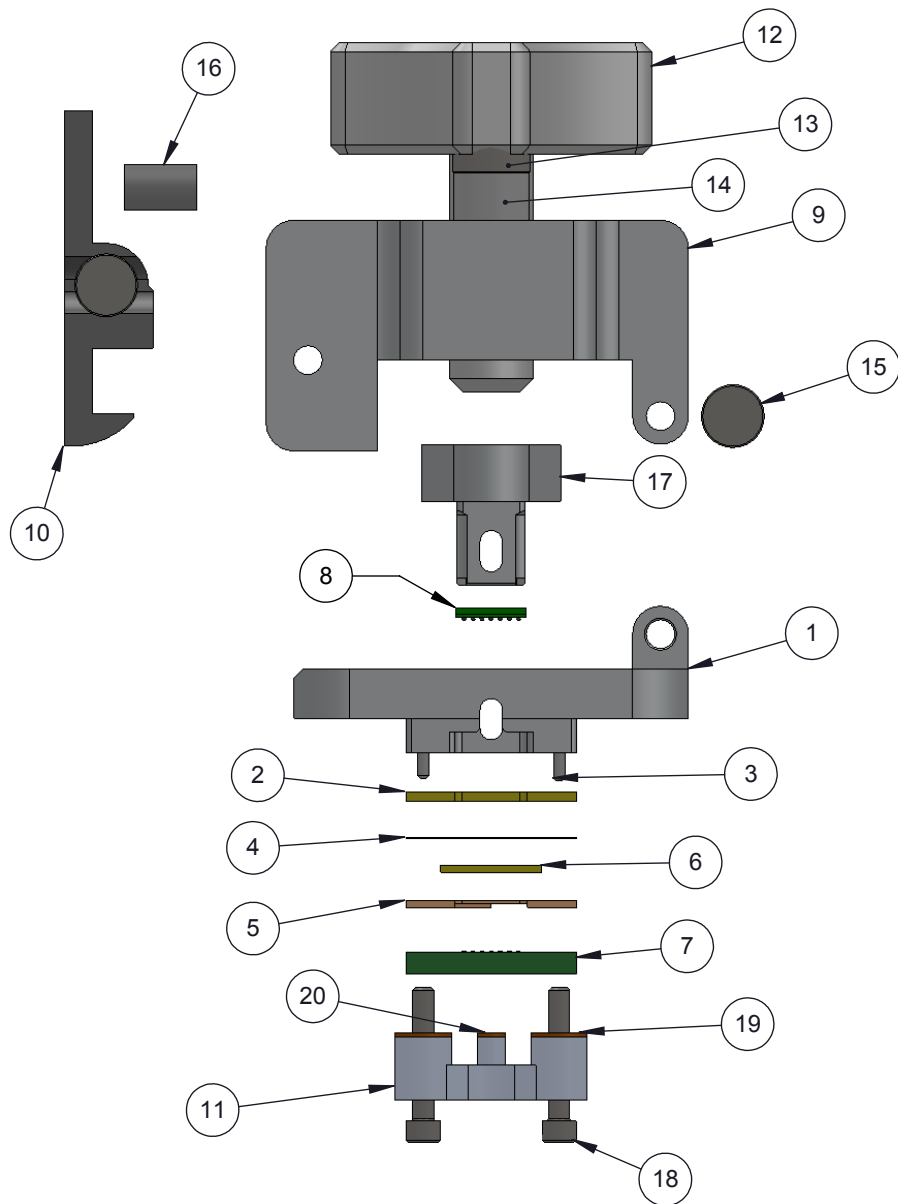


## Description: Backing and insulation; option

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released ENG: S. Huang FILE: CG-BGA-5023 Dwg	SHEET: 6 OF 7 DRAWN BY: M. Raske DATE: 02/24/2015	REV. A SCALE: 4:1




NO.	DESCRIPTION	Material
1	Clam shell socket base 12x7mm IC	7075-T6 Aluminum Alloy
2	IC Guide 12x5mm IC	Torlon 4203
3	Alignment Pin 1/32" dia. x 1/8" lng	Chrome Stainless Steel
4	Ball Guide 17x7 array 0.65mm	Kapton Polyimide/Cirlex
5	Elastomer guide for 12x7mm IC	Ultem 1000
6	0.5mm thick, 0.05x 0.05mm pitch, 10mm sqr, Z-axis conductive angled elastomer	20 Micron dia gold plated brass filaments arranged symetrically in a silicon rubber (63.5 degree angle), Thickness: 0.5mm
7	Test PCB 17x7 array 0.65mm	FR4 High temp
8	Customer's device 12x5mm 17x7 array 0.65mm pitch	FR4 High temp
9	Clam Shell Lid	7075-T6 Aluminum Alloy
10	Latch 6- 10mm Ni plated	7075-T6 Aluminum Alloy
11	X Shaped Backing Plate 12x7mm IC	7075-T6 Aluminum Alloy
12	M6x1 fluted knob compression screw	7075-T6 Aluminum Alloy
13	Screw, M3 x 12mm, Low Head Cap, SS	18-8 Stainless Steel
14	Spring Clamshell lid assembly	Steel Music Wire
15	Hinge Pin and Snap Ring, 2mm OD, 19mm long, SS	Stainless Steel (ferritic)
16	Precision Compression Spring, Zinc-Plated Music Wire, 1/2" Length, .12" OD, .016" Wire	Zinc Plated Music Wire
17	Compression Plate 12x5mm IC	7075-T6 Aluminum Alloy
18	#0-80 X .375 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
19	Insulating washer, 4mm OD.	Kapton Polyimide/Cirlex
20	Insulating disk, 2mm OD with 2 mil thk Adesive	Kapton Polyimide/Cirlex

### Description: Socket Detail

Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001"$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.13\text{mm}$  [ $\pm 0.005"$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

 <b>CG-BGA-5023 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: N/A Finish: N/A Weight: 39.37	STATUS: Released	SHEET: 7 OF 7	REV. A
		ENG: S. Huang	DRAWN BY: M. Raske	SCALE: 1.85:1
		FILE: CG-BGA-5023 Dwg	DATE: 02/24/2015	