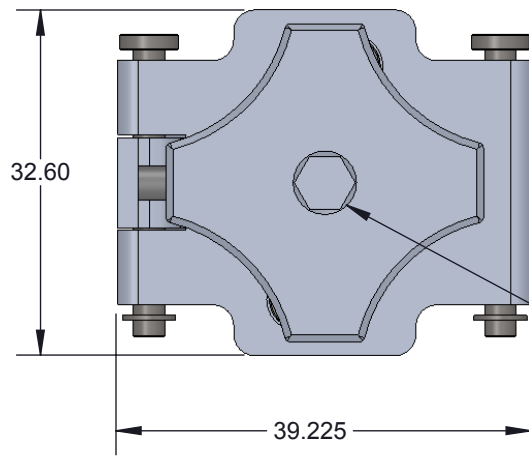


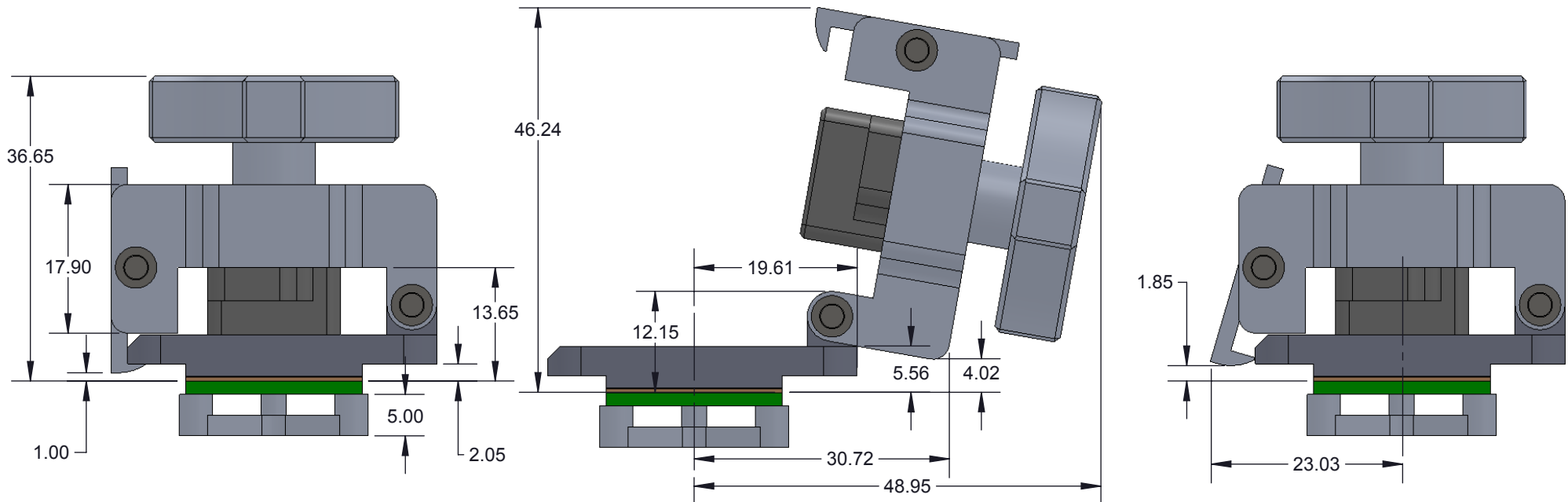
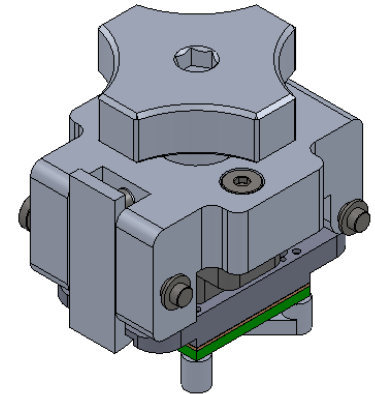
# Clamshell GHz Socket - Direct mount, solderless

## 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
- Ball guide prevents over compression of elastomer
- Clamshell lid



Recommended Torque = 2 in-lbs  
or using hex key, turn the compression  
screw clockwise one half a turn after it  
contacts the package.



### Description: CG-BGA 16x16mm 0.5mm pitch 31x31 array BGA635

Primary dimension units are millimeters, Secondary dimension units are [inches].

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.

#### CG-BGA-5017 Specification



Ironwood Electronics, Inc.  
Tele: (800) 404-0204  
www.ironwoodelectronics.com

Material: Material <not specified>  
Finish:  
Weight: 69.35

STATUS: Released

DRAWN BY: S. Huang

FILE: CG-BGA-5017

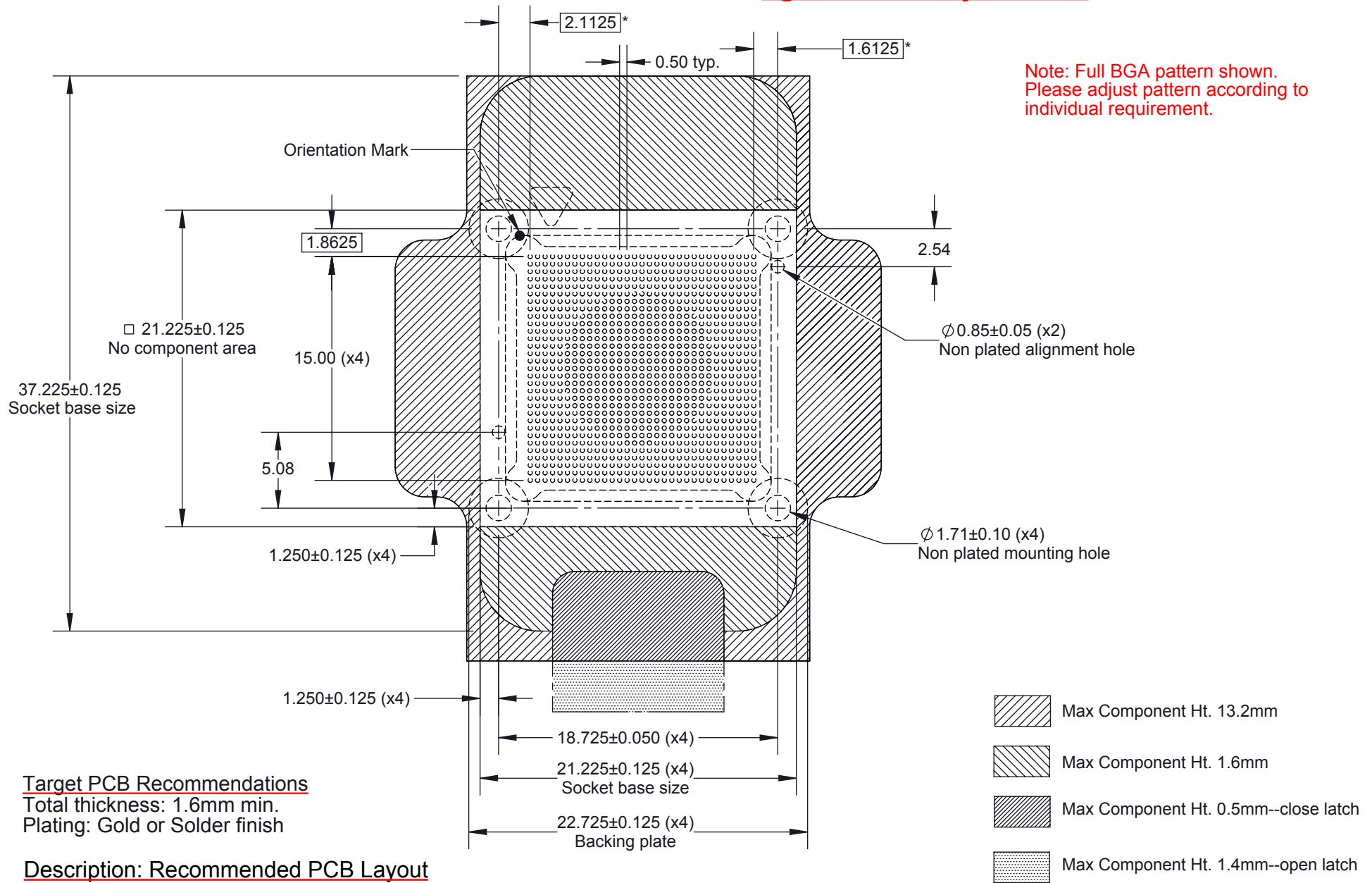
SHEET: 1 OF 4

SCALE: 1.4:1

DATE: 9/14/12

REV. A

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




#### Target PCB Recommendations

Total thickness: 1.6mm min.  
Plating: Gold or Solder finish

#### Description: Recommended PCB Layout

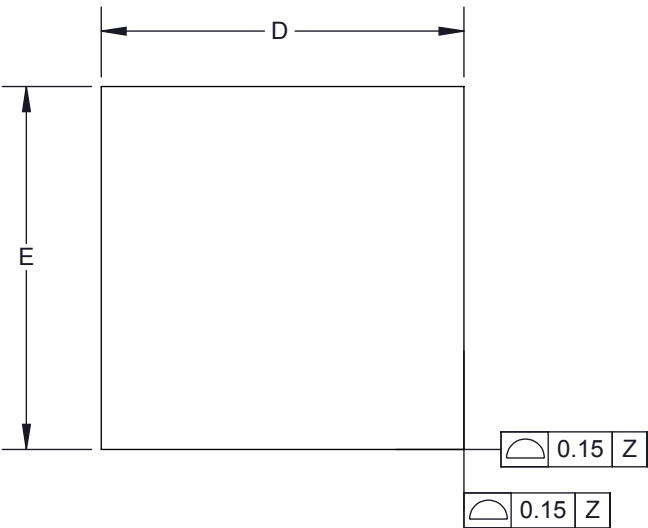
Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

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

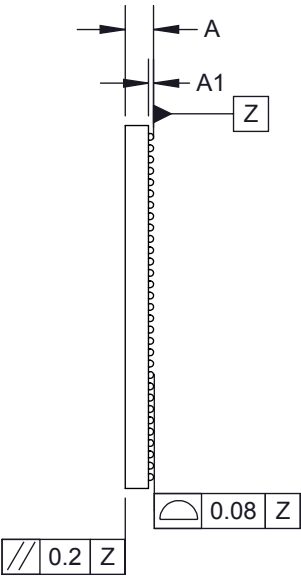
 <b>CG-BGA-5017 Drawing</b>	Material: Material <not specified> Finish: Weight: 69.35	STATUS: Released	SHEET: 2 OF 4	REV. A
		DRAWN BY: S. Huang	SCALE: 2.8:1	
		FILE: CG-BGA-5017	DATE: 9/14/12	

Ironwood Electronics, Inc.  
Tele: (800) 404-0204  
www.ironwoodelectronics.com

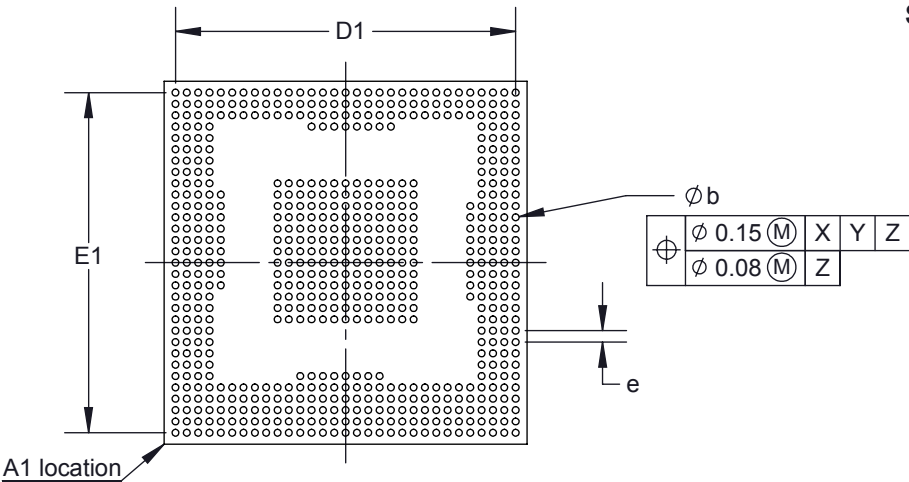
IRONWOOD package code: BGA635A



TOP VIEW



SIDE VIEW



BOTTOM VIEW


DIM	MIN	MAX
A		1.4
A1	0.16	0.26
b	0.27	0.37
D	16	
D1	15	
E	16	
E1	15	
e	0.50	

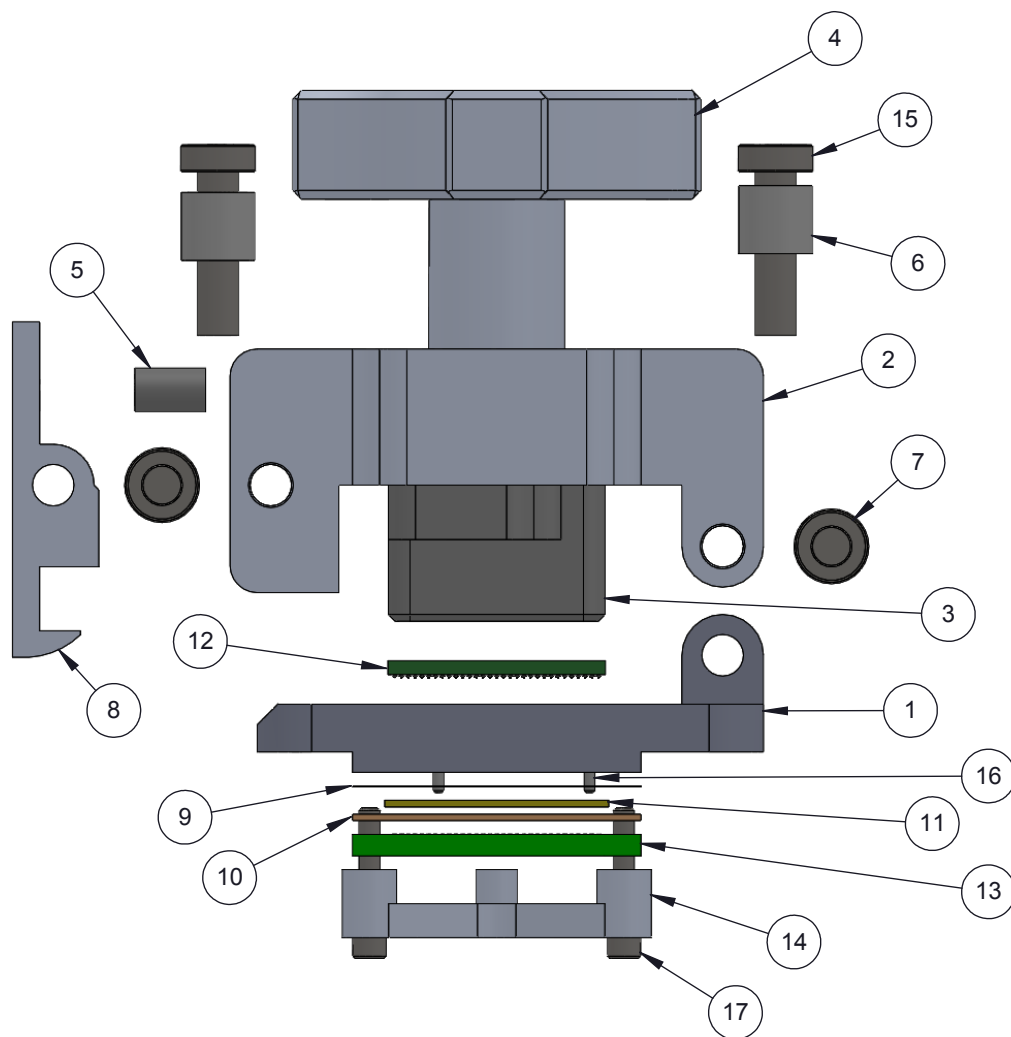
Array: 31x31

1. Dimensions are in millimeters.
2. Interpret dimensions and tolerances per ASME Y14.5-1994.
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.

Description: Compatible BGA

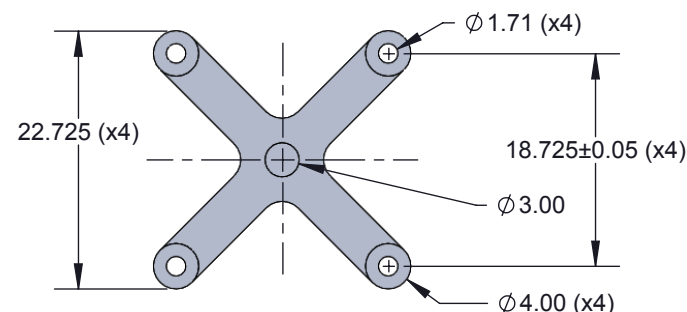
Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.  
Tolerances: Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001^{\circ}$ ], Pitches (from true position)  $\pm 0.025\text{mm}$  [ $\pm 0.001^{\circ}$ ], substrate thickness tolerance  $\pm 10\%$ , all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

 <b>CG-BGA-5017 Drawing</b>	Material: Material <not specified> Finish: Weight: 69.35	STATUS: Released	SHEET: 3 OF 4	REV. A
		DRAWN BY: S. Huang	SCALE: 3:1	
		FILE: CG-BGA-5017	DATE: 9/14/12	

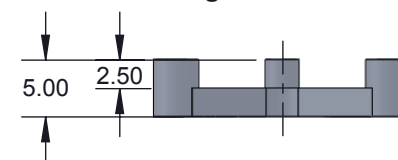


ITEM NO.	DESCRIPTION	Material
1	CG Socket Base 16.325mm Pocket 18.725mm Holes	7075-T6 Aluminum Alloy
2	Clam shell lid for 17mm IC	7075-T6 Aluminum Alloy
3	Clamshell 16mm IC Compression Plate	7075-T6 Alumium Alloy
4	M10 Comression Screw	7075-T6 Aluminum Alloy
5	Precision Compression Spring, Zinc- Plated Music Wire, 1/2" Length, .12" OD, .016" Wire	Zinc Plated Music Wire
6	Spring Clamshell lid assembly	Steel Music Wire
7	Hinge Pin and Snap Ring, 3mm OD, 25mm long, SS	Stainless Steel (ferritic)
8	Clamshell Latch	7075-T6 Aluminum Alloy
9	Ball Guide	Kapton Polyimide/Cirlex
10	Elastomer Guide	Ultem 1000
11	0.5mm thick, 0.05x 0.05mm pitch, 50mm sqr, Z-axis conductive angled elastomer	20 Micron dia gold plated brass filaments arranged symettrically in a silicon rubber (63.5 degree angle), Thickness: 0.5mm
12	Test Chip 16x16mm 31x31 array 0.5mm pitch	Material <not specified>
13	Test PCB 16x16mm 31x31 array 0.5mm pitch	Material <not specified>
14	16x16mm Clamshell Backing Plate	7075-T6 Aluminum Alloy
15	Screw, M3 x 12mm, Low Head Cap, SS	18-8 Stainless Steel
16	Dowel Pin, 1/32" x 3/16", SS	Chrome Stainless Steel
17	#0-80 X .375 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel

**Backing Plate Top View**




**Backing Plate Side View**



## Description: Skt and Backing plate 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-5017 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: Material <not specified> Finish: Weight: 69.35	STATUS: Released	SHEET: 4 OF 4	REV. A
		DRAWN BY: S. Huang	SCALE: 1.8:1	
		FILE: CG-BGA-5017	DATE: 9/14/12	