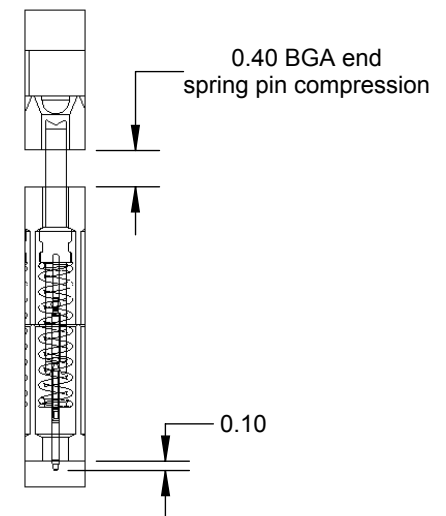
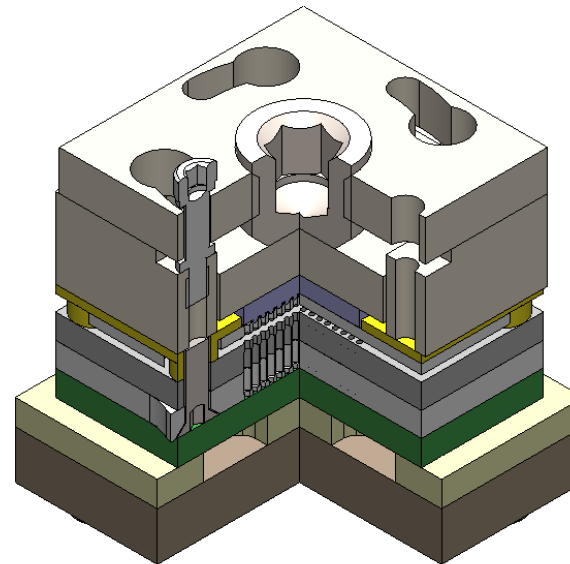
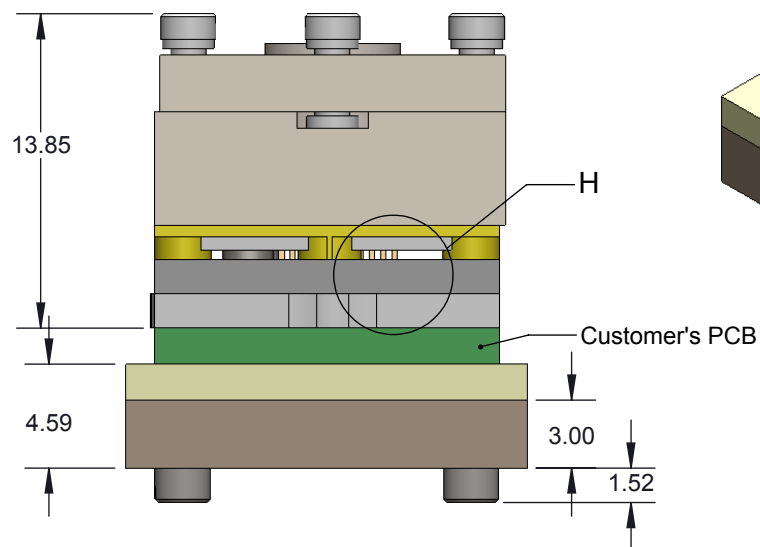
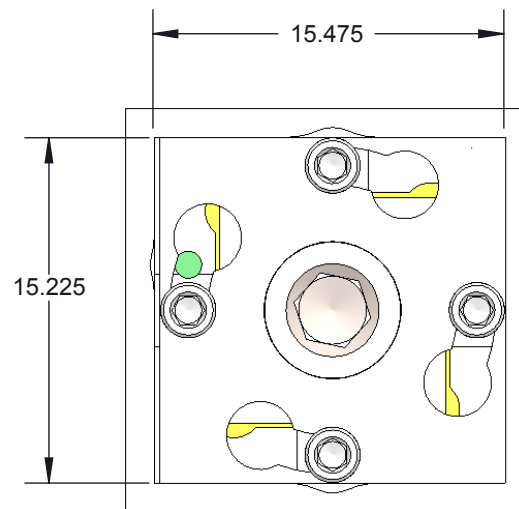


# SBT-BGA DIRECT MOUNT, SOLDERLESS SOCKET FOR BURN-IN AND TEST APPLICATIONS

## FEATURES:

- Wide temperature range (-55C to +180C)
- High current capability (up to 4A)
- Excellent signal integrity at high frequencies
- Low and stable contact resistance for reliable production yield
- Highly compliant to accommodate wide co-planarity variations
- Automated probe manufacturing enables low cost and short lead time




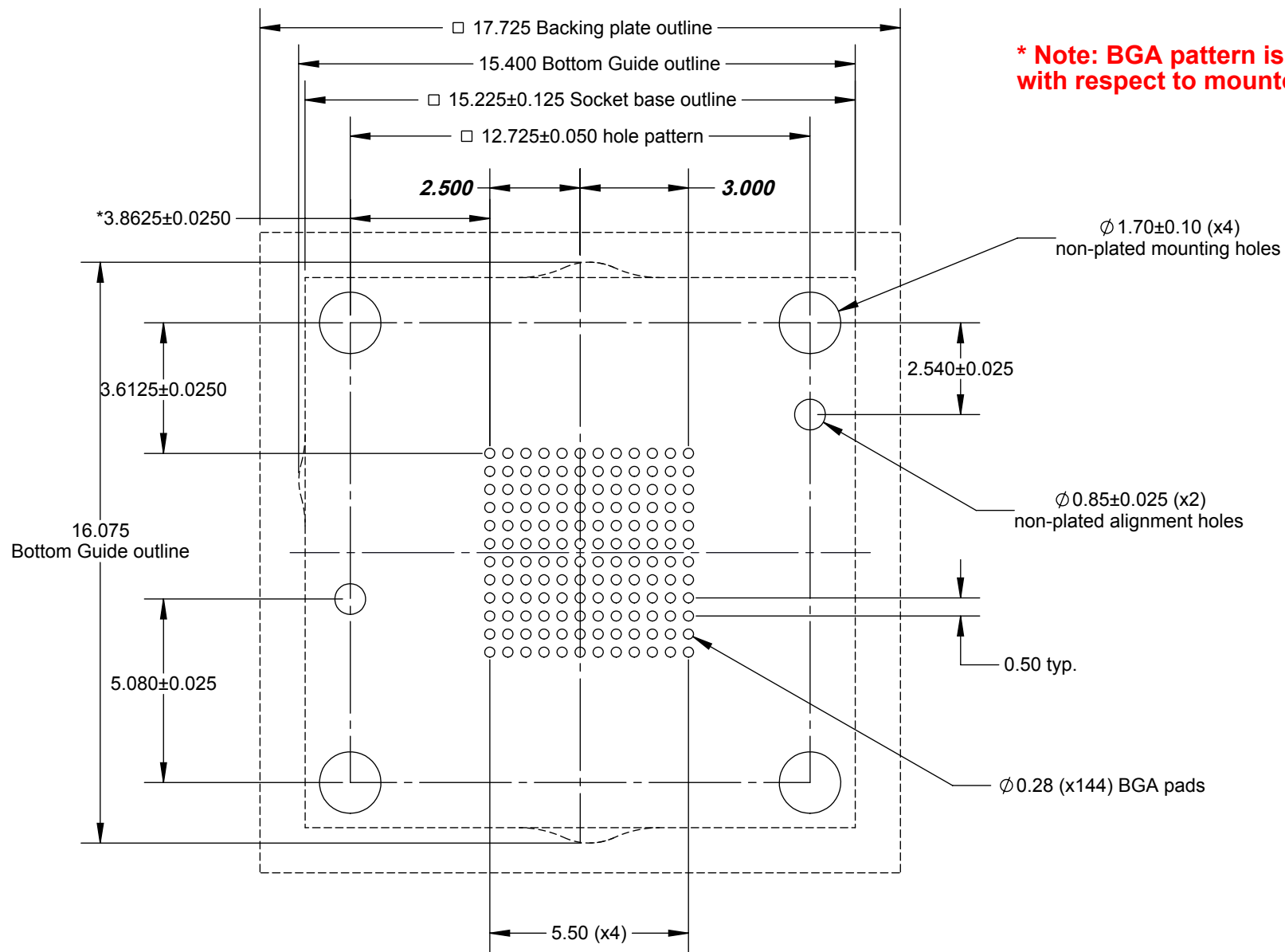
**DETAIL H**  
**SCALE 12 : 1**

## Description: SBT-BGA144 7mm 0.5mm pitch

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>SBT-BGA-7011 Drawing</b>  Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: Material <not specified> Finish: Weight: 10.20	STATUS: Released ENG: V. Panavala FILE: SBT-BGA-7011	SHEET: 1 OF 4 DRAWN BY: D. Hauer DATE: 12/27/2013	REV. C SCALE: 3:1




**\* Note: BGA pattern is not symmetrical with respect to mountong holes.**

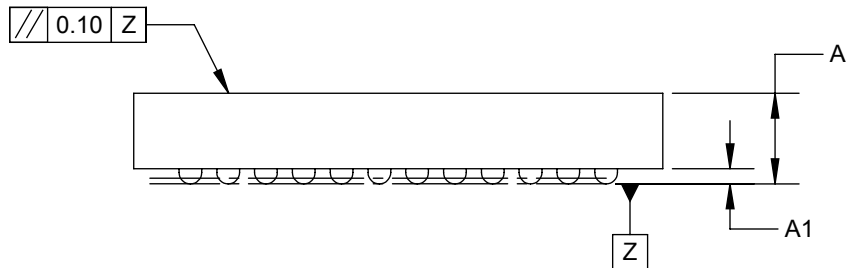
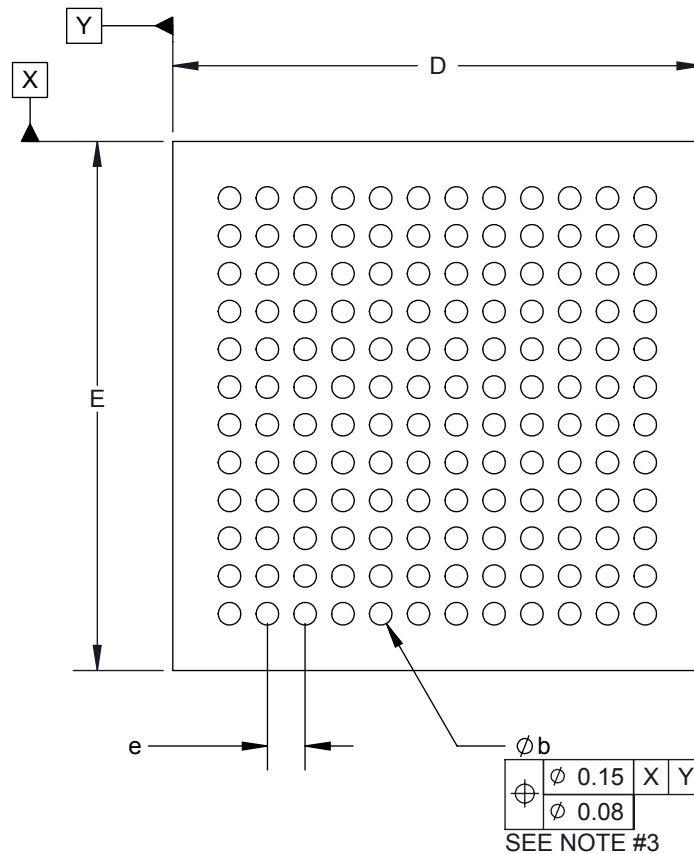
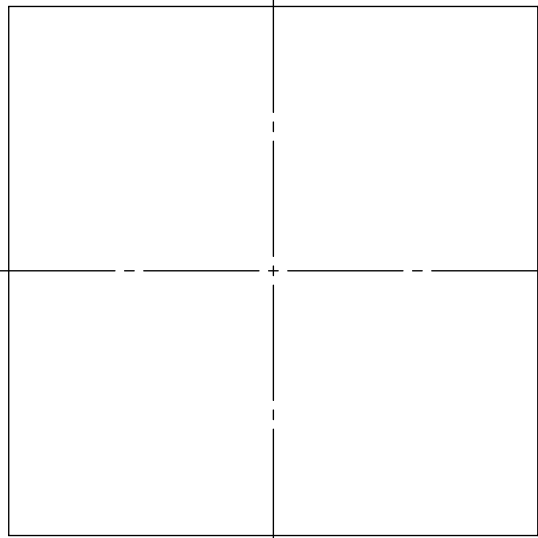
## Description: Recommended PCB Layout

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.

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

 <b>SBT-BGA-7011 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Material: Material <not specified> Finish: Weight: 10.20	STATUS: Released	SHEET: 2 OF 4	REV. C
		ENG: V. Panavala	DRAWN BY: D. Hauer	SCALE: 6:1
		FILE: SBT-BGA-7011	DATE: 12/27/2013	



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.


## Ironwood Package Code: BGA144R

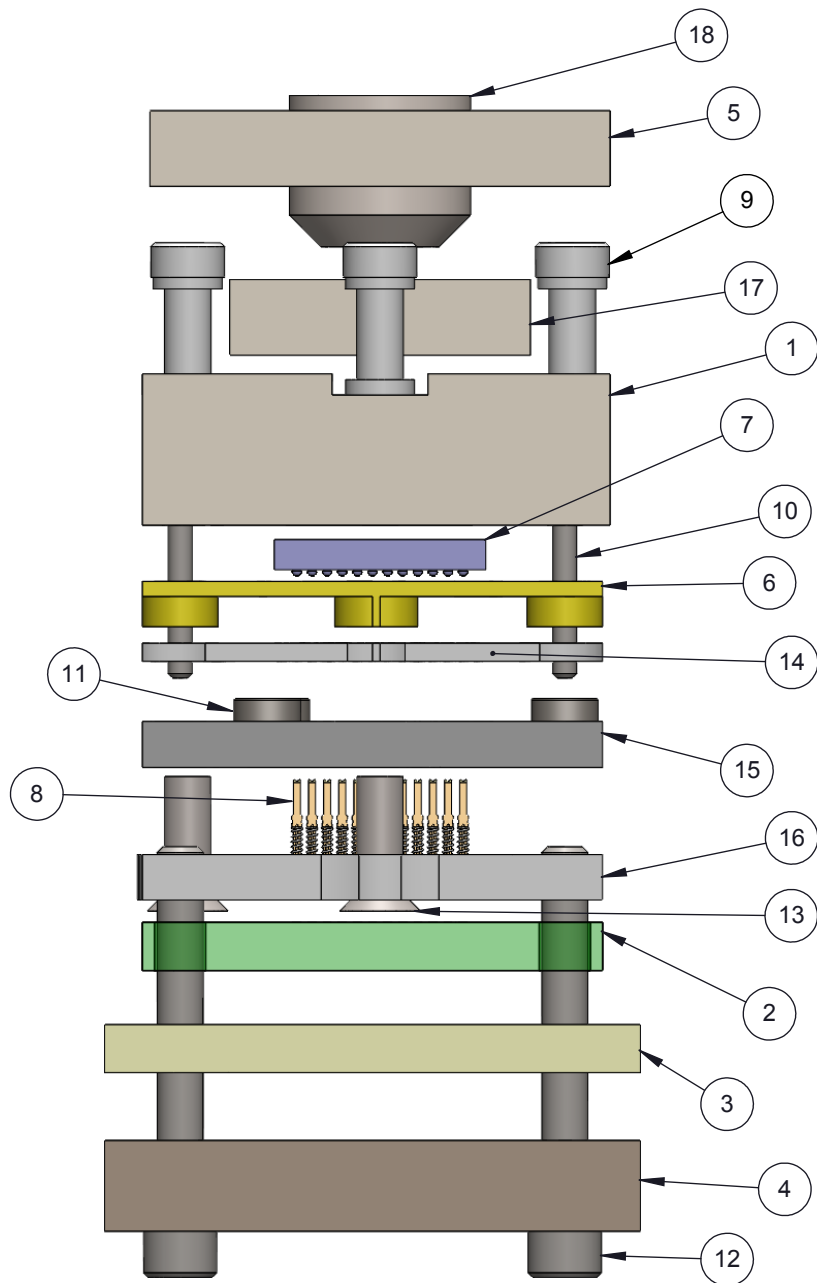
DIM	Minimum	Maximum
A		1.0
A1	0.15	0.25
b		0.35
D	7.0 BSC	
E	7.0 BSC	
e	0.5 BSC	
ARRAY	12 X 12	
PIN COUNT	144	

## Description: Compatible BGA

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

**Tolerances:** Hole diameters  $\pm 0.03\text{mm}$  [ $\pm 0.001"$ ], 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>SBT-BGA-7011 Drawing</b> Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	<b>Material:</b> Material <not specified> <b>Finish:</b> <b>Weight:</b> 10.20	STATUS: Released	SHEET: 3 OF 4	REV. C
		ENG: V. Panavala	DRAWN BY: D. Hauer	SCALE: 10:1
		FILE: SBT-BGA-7011	DATE: 12/27/2013	

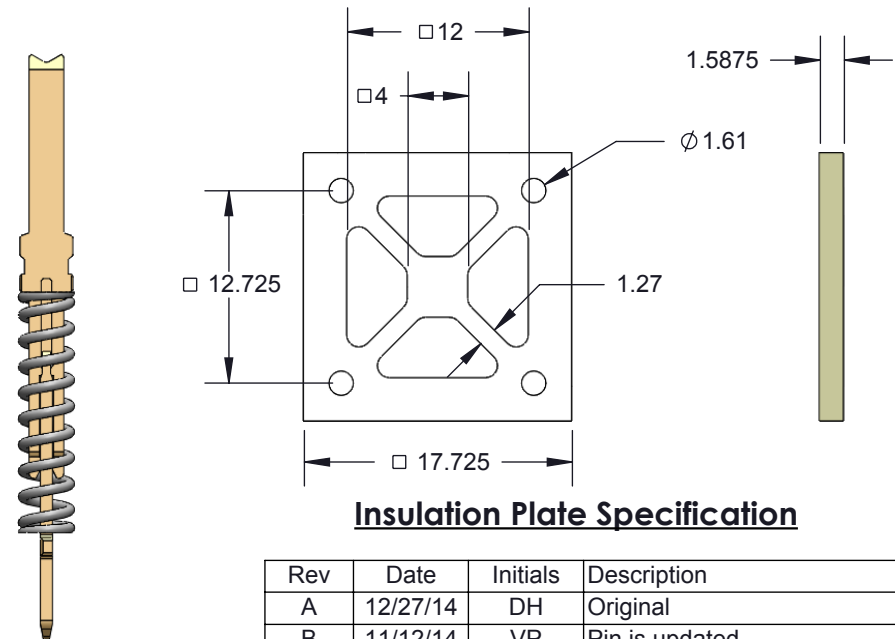


## Description: Socket Assy, Insulation Plate

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.

ITEM NO.	DESCRIPTION	Material
1	Socket Base SBT BGA 10x10	7075-T6 Aluminum Alloy
2	PCB BGA144 0.5mm pitch	FR4 High temp
3	Insulation Plate	FR4 High temp
4	Backing Plate, 17.73 X 17.73 x 3mm	7075-T6 Aluminum Alloy
5	Socket Lid	7075-T6 Aluminum Alloy
6	SBT-BGA IC guide 7x7mm	Material <not specified>
7	Test Chip 7x7mm 12x12 0.5mm	Material <not specified>
8	SBT Pin, SBT-BGA 0.5mm-0.8mm	
9	#0-80 Shoulder Screw, 0.062" thread length	Stainless Steel (303)
10	Dowel pin, 1/32" X 1/4", SS	Stainless Steel (18-8)
11	Floating Guide Spring	Alloy Steel (SS)
12	#0-80 x 0.5, SH Cap Screw	Material <not specified>
13	#0-80, 90 deg., head pin guide screw, Peek material	PEEK unfilled
14	Floating Guide SBT-BGA 8x8mm, 0.5mm pitch 14x14 array	Semitron MDS 100
15	SBT-BGA Middle Guide 8x8mm, 0.5mm pitch, 14x14 array	Semitron MDS 100
16	SBT-BGA Bottom guide 8x8mm, 0.5mm Pitch, 14x14 array	Semitron MDS 100
17	Compression Plate	7075-T6 Aluminum Alloy
18	Compression Screw M6x1	Stainless Steel (18-8)



## Insulation Plate Specification

Rev	Date	Initials	Description
A	12/27/14	DH	Original
B	11/12/14	VP	Pin is updated
C	2/12/15	RP/MR	Changes to guides, R3147 was R3906, adjusted dowel pins

<b>SBT-BGA-7011 Drawing</b>  Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com		Material: Material <not specified> Finish: Weight: 10.20	STATUS: Released ENG: V. Panavala FILE: SBT-BGA-7011	SHEET: 4 OF 4 DRAWN BY: D. Hauer DATE: 12/27/2013	REV. C SCALE: 2:1
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