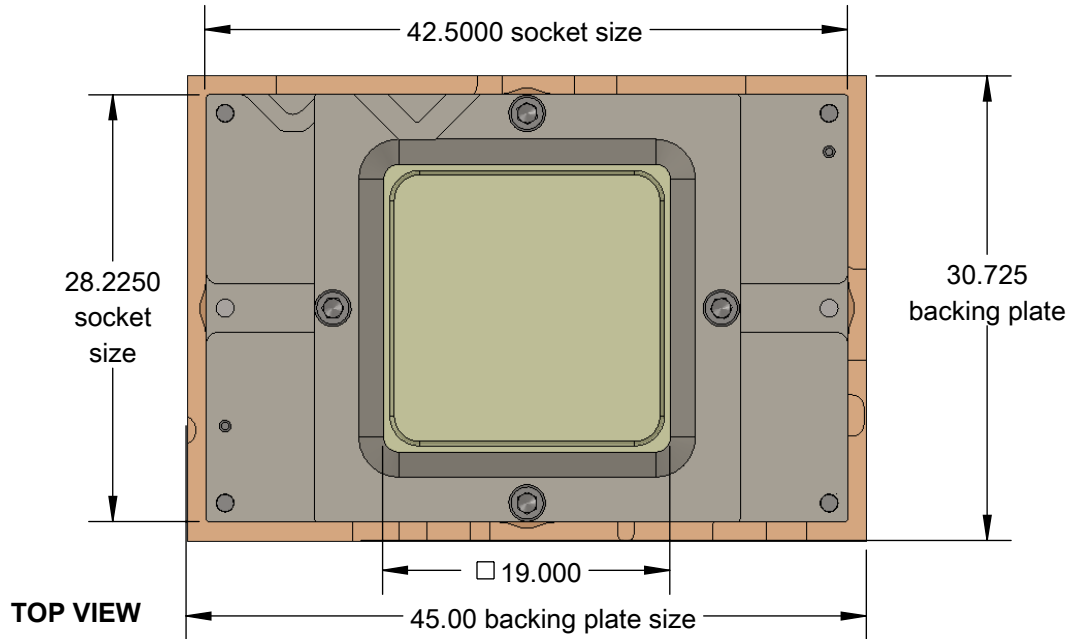
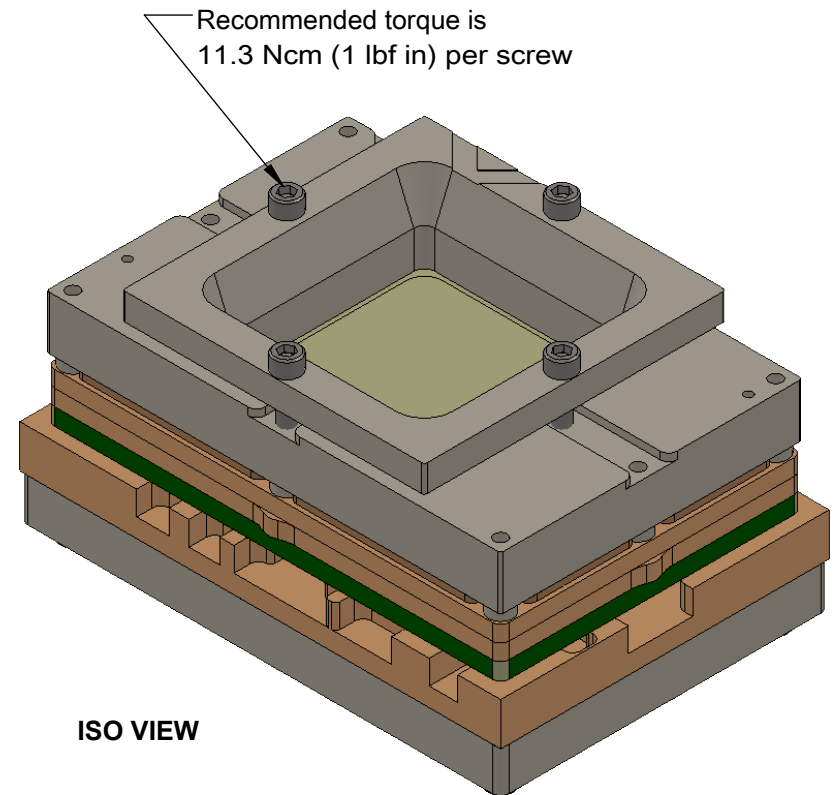
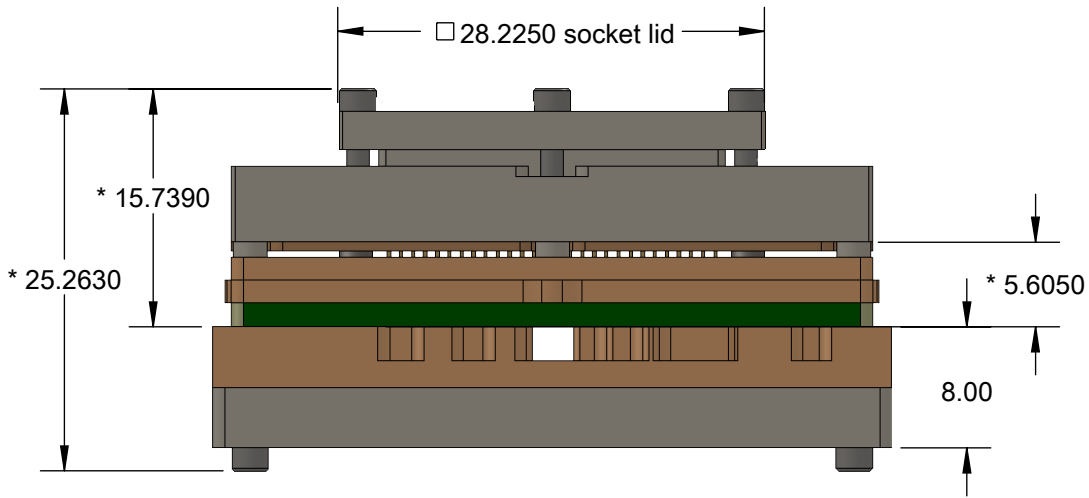


# SBT-BGA DIRECT MOUNT, SOLDERLESS SOCKET FOR BURN-IN AND TEST APPLICATIONS



- 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




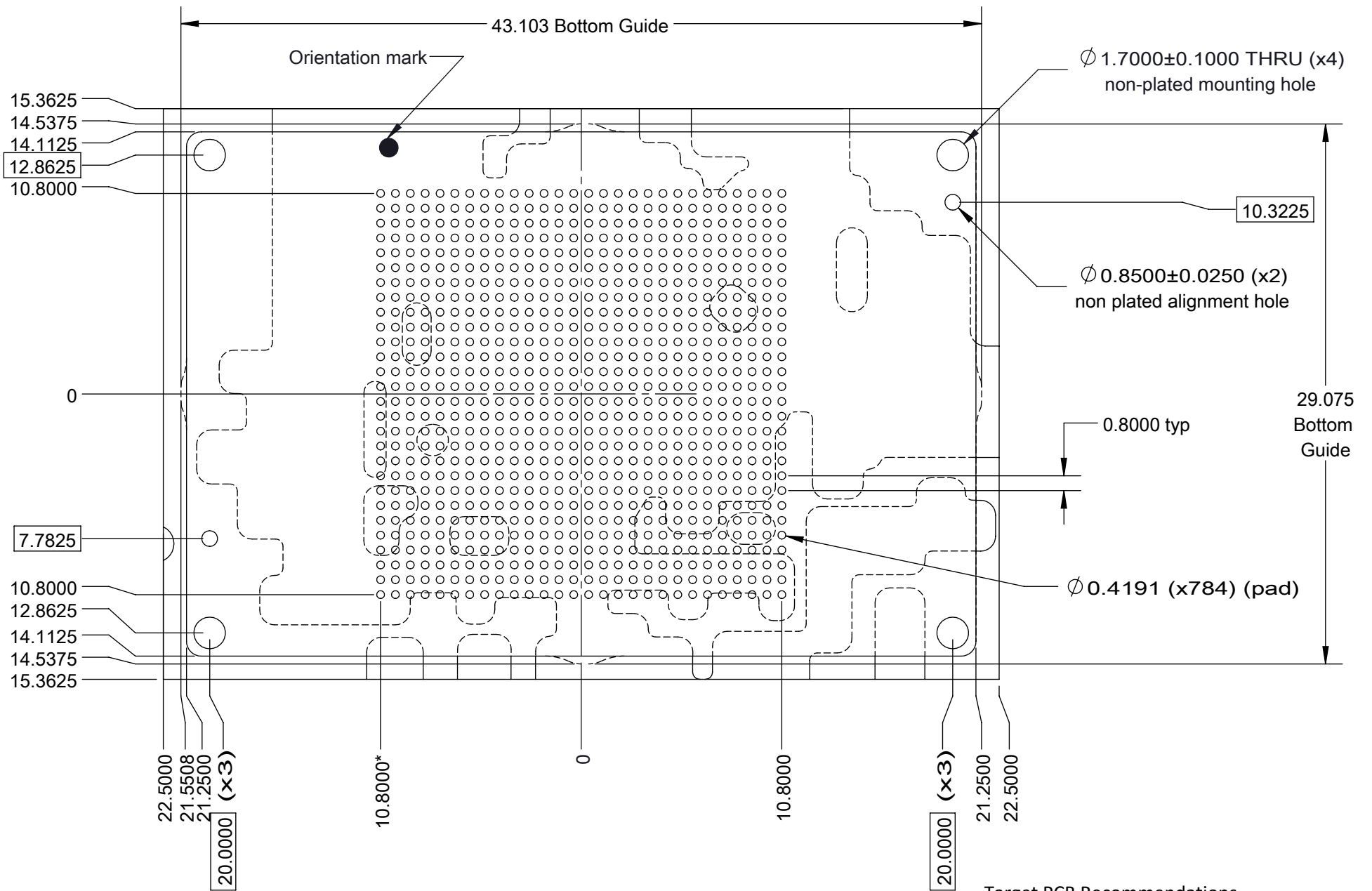
\* with 1.58mm thick target PCB

## Description: Socket Specification

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

**Tolerances:** Hole diameters  $\pm 0.0254\text{mm}$  [ $\pm 0.001$ "]. Pitches (from true position)  $\pm 0.0762\text{mm}$  [ $\pm 0.003$ "]. substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.127\text{mm}$  [ $\pm 0.005$ "] unless stated otherwise. Materials and specifications are subject to change without notice.

 <p><b>SBT-BGA-6533 Drawing</b> ©2015 Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com</p>	<p>Material: N/A Finish: N/A Weight: 44.10</p>	<p>STATUS: Released ENG: E. Smolentseva FILE: SBT-BGA-6533 Dwg</p>	<p>SHEET: 1 OF 5 DRAWN BY: M. Raske DATE: 02/17/2016</p>	<p>REV. A SCALE: 1:1</p>
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### Description: Recommended PCB Layout

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


**Tolerances:** Hole diameters  $\pm 0.0254\text{mm}$  [ $\pm 0.001$ "]. Pitches (from true position)  $\pm 0.0762\text{mm}$  [ $\pm 0.003$ "], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.127\text{mm}$  [ $\pm 0.005$ "] unless stated otherwise. Materials and specifications are subject to change without notice.

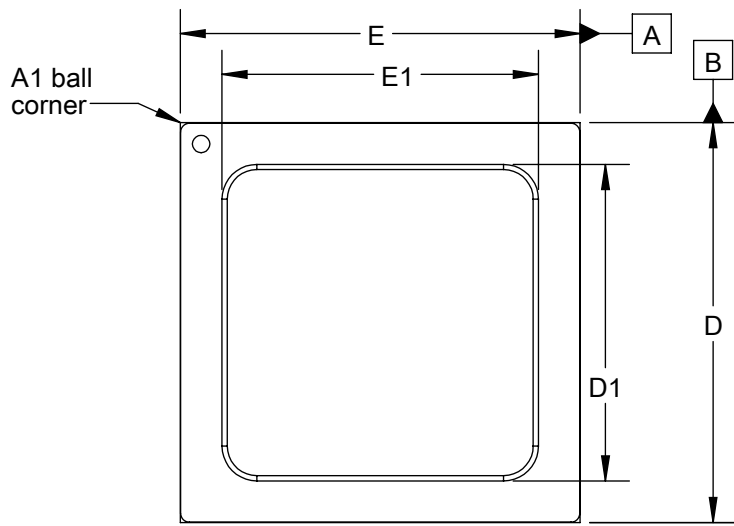
### Target PCB Recommendations

Total thickness: 1.6mm min.

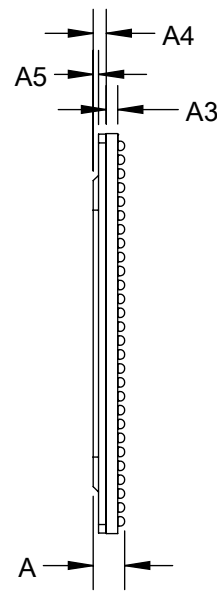
Plating: Gold or Solder finish

PCB Pad height: same or higher than solder mask

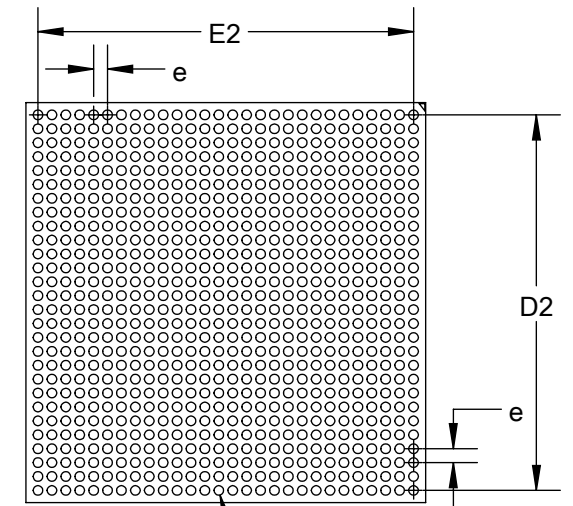
 <p><b>SBT-BGA-6533 Drawing</b> ©2015 Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com</p>	<p>Material: N/A Finish: N/A Weight: 44.10</p>	<p>STATUS: Released ENG: E. Smolentseva FILE: SBT-BGA-6533 Dwg</p>	<p>SHEET: 2 OF 5 DRAWN BY: M. Raske DATE: 02/17/2016</p>	<p>REV. A SCALE: 3.5:1</p>



TOP VIEW

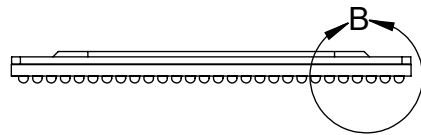


SIDE VIEW

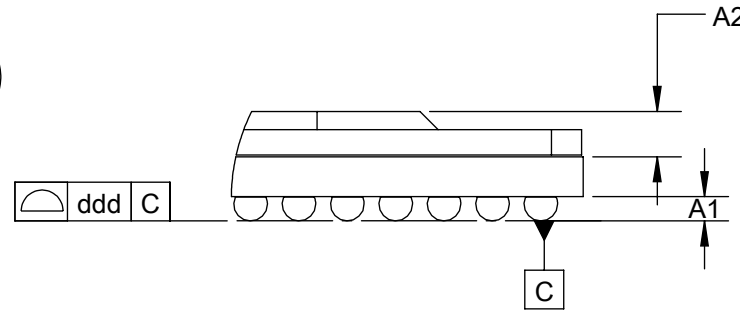


BOTTOM VIEW

$\oplus$	$\phi$ eee (M)	C	A	B
$\oplus$	$\phi$ fff (M)	C		



FRONT VIEW



DETAIL B  
SCALE 8 : 1


DIM	MIN	NOM	MAX
A			1.92
A1	0.27		
A2		0.75	
A3		0.66	
A4		0.40	
A5		0.30	
b		0.50	
D	22.80	23.00	23.20
D1		18.20	
D2		21.60	
E	22.80	23.00	23.20
E1		18.20	
E2		21.60	
e	0.80 BSC		
aaa		0.20	
ddd		0.15	
eee		0.25	
fff		0.10	
ARRAY	28 X 28		
PIN COUNT	784		

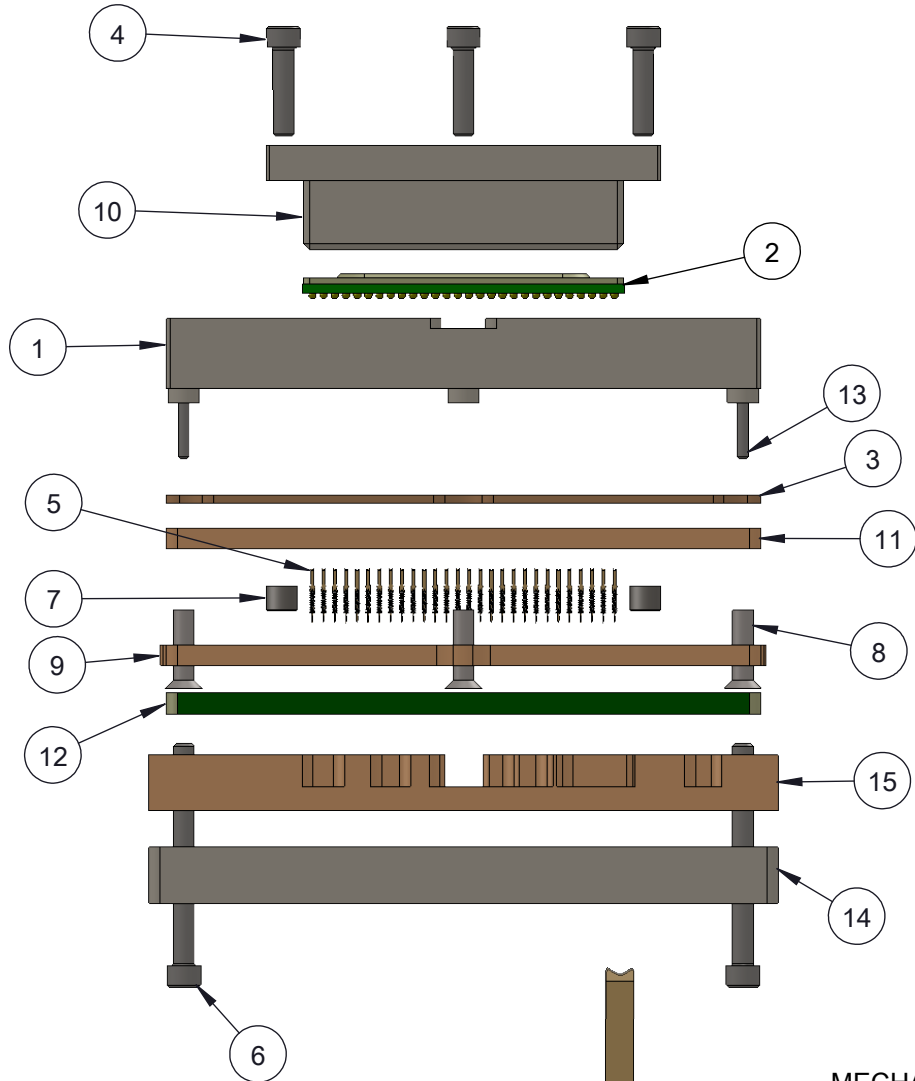
1. Dimensions are in millimeters.
2. Interpret dimensions and tolerances per ASME Y14.5M-1994.
3. Dimension b is measured at the maximum solder ball diameter, parallel to datum plane C.
4. Datum C (seating plane) is defined by the spherical crowns of the solder balls.
5. Parallelism measurement shall 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  $\pm 0.0254\text{mm}$  [ $\pm 0.001$ "], Pitches (from true position)  $\pm 0.0762\text{mm}$  [ $\pm 0.003$ "], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.127\text{mm}$  [ $\pm 0.005$ "] unless stated otherwise. Materials and specifications are subject to change without notice.

 <p><b>SBT-BGA-6533 Drawing</b> ©2015 Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com</p>	<p>Material: N/A Finish: N/A Weight: 44.10</p>	<p>STATUS: Released ENG: E. Smolentseva FILE: SBT-BGA-6533 Dwg</p>	<p>SHEET: 3 OF 5 DRAWN BY: M. Raske DATE: 02/17/2016</p>	<p>REV. A SCALE: 2.3:1</p>
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**SBT PIN**  
Scale: 16:1

ITEM NO.	DESCRIPTION	Material
1	Socket Base	7075-T6 Aluminum Alloy
2	Customer's BGA IC	FR4 Standard
3	Floating Guide	Semitron MDS 100
4	#0-80 X .25 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
5	SBT Pin, SBT-BGA 0.5mm-0.8mm	
6	#0-80 X .625 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
7	Floating Guide Spring	Alloy Steel (SS)
8	#0-80, 90 deg., head pin guide screw, Peek material 5.5715mm overall Length	PEEK unfilled
9	Bottom Pogo pin Guide	Semitron MDS 100
10	Open Top Lid	7075-T6 Aluminum Alloy
11	Middle Pogo Guide BGA784 23x23mm 0.8mm 28x28 array	Semitron MDS 100
12	Customer's target PCB	FR4 Standard
13	Dowel pin, 1/32" X 1/4", SS	Stainless Steel (18-8)
14	Backing Plate	7075-T6 Aluminum Alloy
15	Insulation plate	Ultem 1000

**MECHANICAL PROPERTIES:**

- . Pitch: 0.50mm (min)-0.8mm( max.)
- . Working Travel: 0.43mm
- . Contact Force@ working travel: 30.9 gf
- . Full Length: 3.86mm
- . Compressed Length: 3.43mm
- . Operating Temperature: -55°C to +180°C
- . Mechanical Life: 125,000+ cycles

**ELECTRICAL PROPERTIES:**

- . Contact Resistance: <35mohms
- . Current Rating (60C rise): 4 amp
- . Self Inductance: 0.88 nH
- . Capacitance: 0.097 pF
- . Bandwidth @ -1dB: 5.2 to 15.7 GHz

**MATERIALS:**


- . Stamped Contact: BeCu, Au Plate Over Ni
- . Spring SS, Au Plate

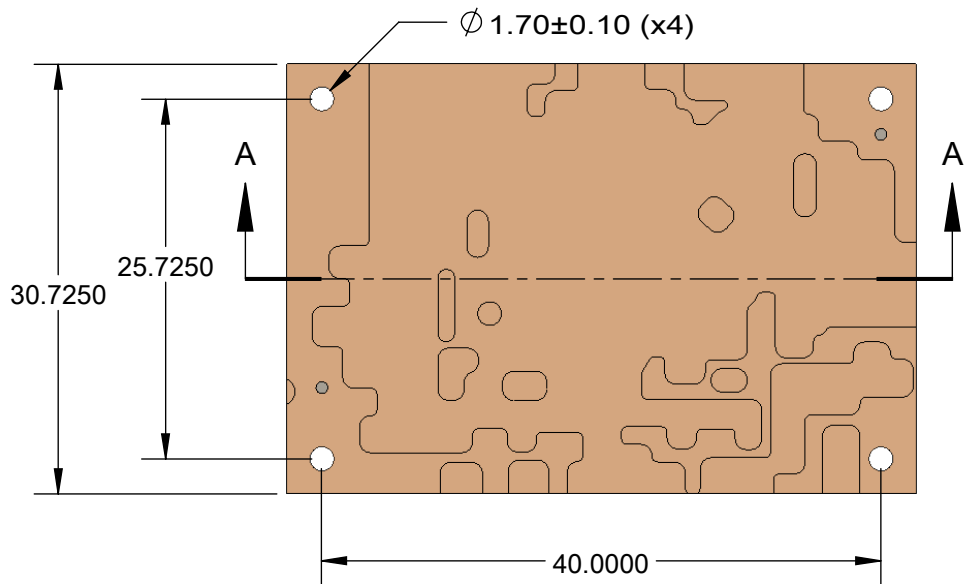
**Description: Socket assembly**

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

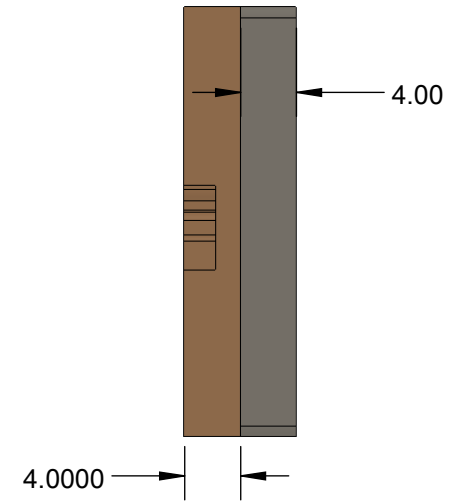
**Tolerances:** Hole diameters ±0.0254mm [±0.001"], Pitches (from true position) ±0.0762mm [±0.003"], substrate thickness tolerance ±10%, all other tolerances ±0.127mm [±0.005"] unless stated otherwise. Materials and specifications are subject to change without notice.

**Backing Plate Specification**

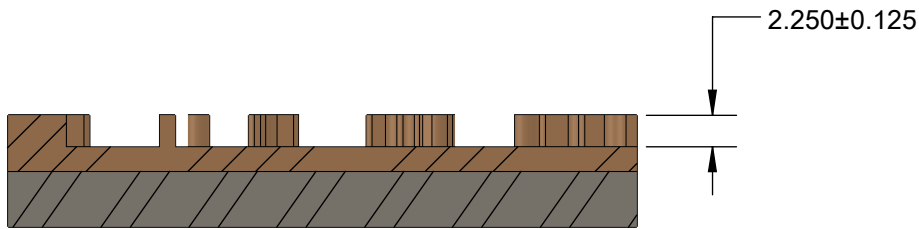
 <p><b>SBT-BGA-6533 Drawing</b> ©2015 Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com</p>	<p>Material: N/A Finish: N/A Weight: 44.10</p>	STATUS: Released	SHEET: 4 OF 5	REV. A
		ENG: E. Smolentseva	DRAWN BY: M. Raske	SCALE: 1.85:1
		FILE: SBT-BGA-6533 Dwg	DATE: 02/17/2016	



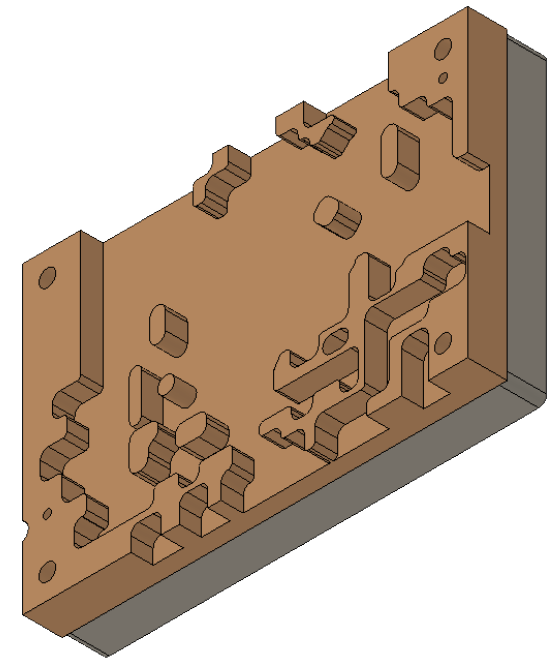
TOP VIEW



SIDE VIEW



SECTION A-A




ISO VIEW

**Description: Insulating and backing plate**

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

Tolerances: Hole diameters  $\pm 0.0254\text{mm}$  [ $\pm 0.001''$ ], Pitches (from true position)  $\pm 0.0762\text{mm}$  [ $\pm 0.003''$ ], substrate thickness tolerance  $\pm 10\%$ , all other tolerances  $\pm 0.127\text{mm}$  [ $\pm 0.005''$ ] unless stated otherwise. Materials and specifications are subject to change without notice.

 <p><b>SBT-BGA-6533 Drawing</b> ©2015 Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com</p>	<p>Material: N/A Finish: N/A Weight: 44.10</p>	<p>STATUS: Released ENG: E. Smolentseva FILE: SBT-BGA-6533 Dwg</p>	<p>SHEET: 5 OF 5 DRAWN BY: M. Raske DATE: 02/17/2016</p>	<p>REV. A SCALE: 1.85:1</p>