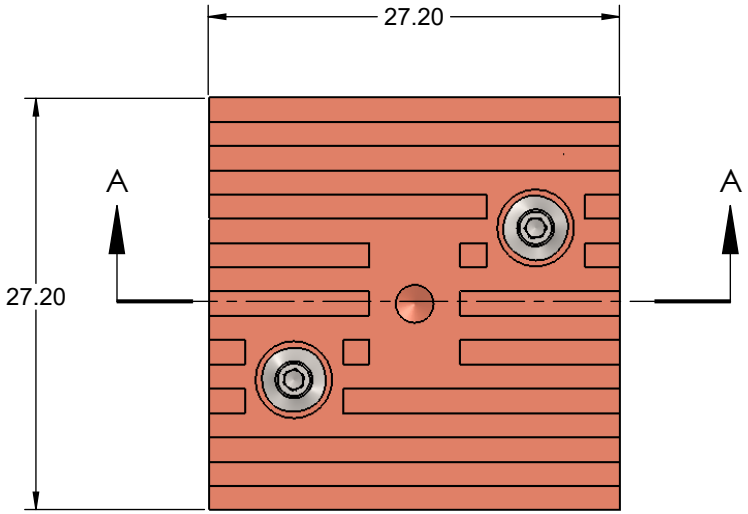
SBT-QFE100 DIRECT MOUNT, SOLDERLESS SOCKET FOR BURN-IN AND TEST APPLICATIONS

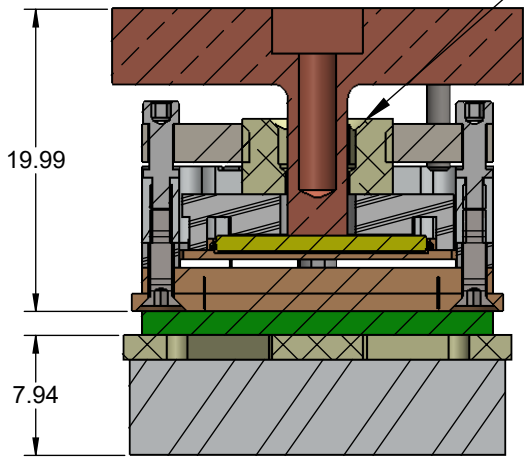


TOP VIEW

Features

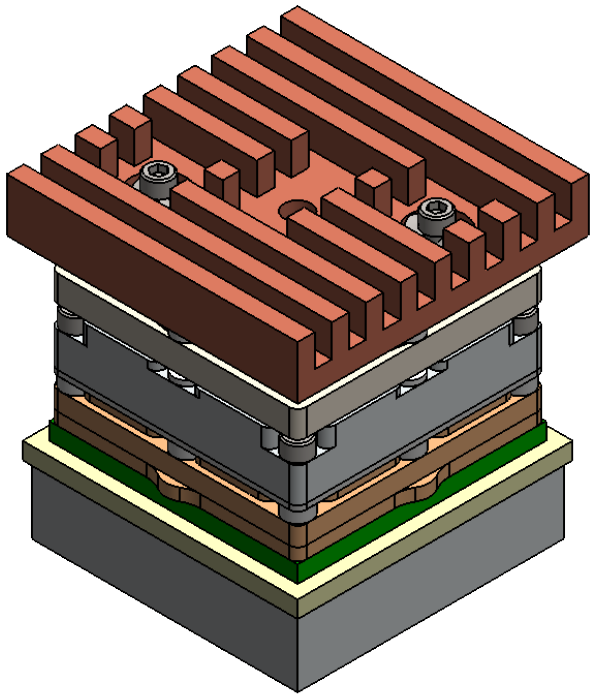
- Wide temperature range (-55C to +180C).
- High current capability (up to 4A).
- Excellent signal integrity at high frequencies.
- Low and stable contact resistance for reliable production yield.
- Highly compliant to accommodate wide co-planarity variations.
- Automated probe manufacturing enables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

Recommended Torque:
0.6 lbf-in. {6.8 N-cm}



SIDE VIEW

SECTION A-A



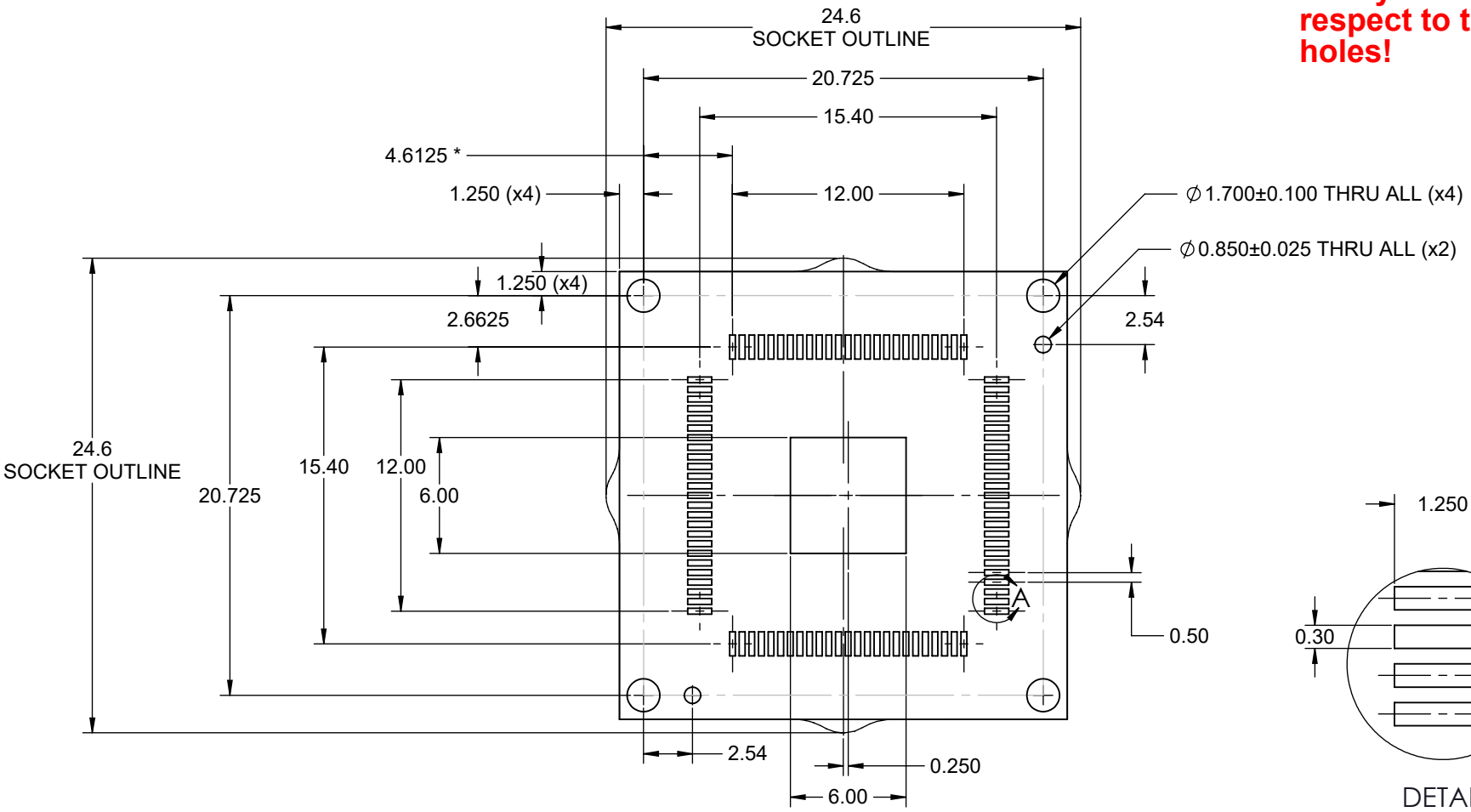
Description: SBT-QFE100SE 0.5mm Pitch 16-16mm T-T with 1W heatsink

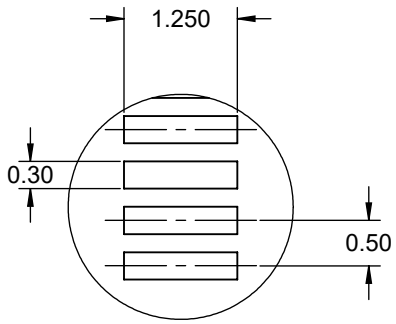
Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 1 OF 7	REV. A
Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish: Weight:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 2:1
		FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	

NOTE: QFE pattern is not symmetrical with respect to the mounting holes!





DETAIL A
SCALE 12 : 1

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

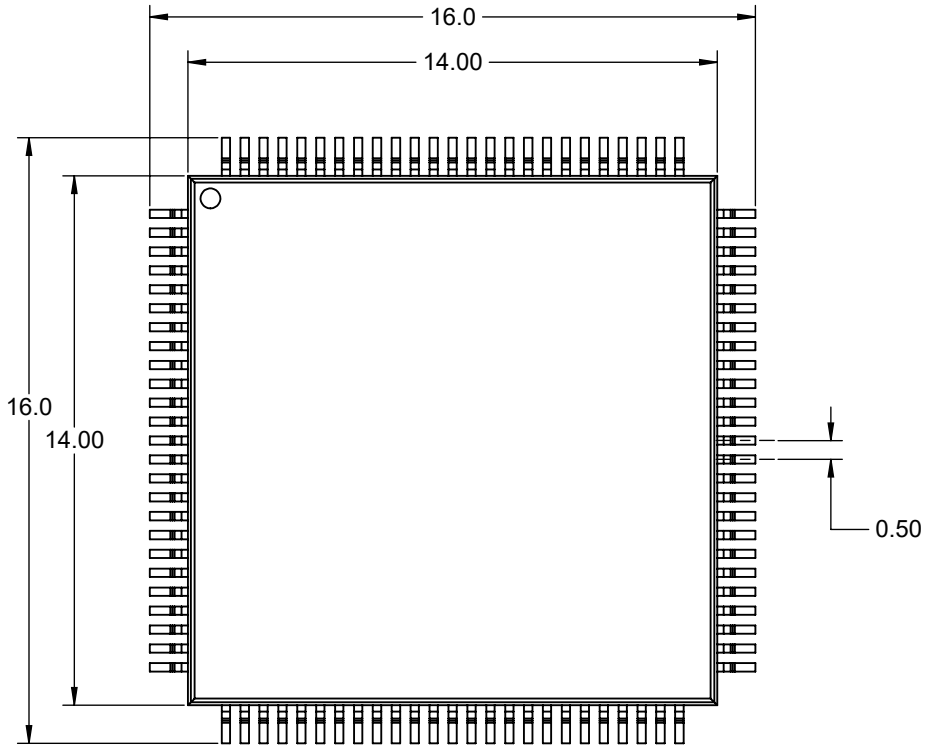
Description: Recommended PCB layout

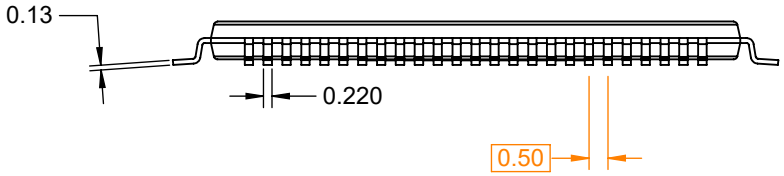
Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 2 OF 7	REV. A
Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish: Weight:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 3:1
		FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	

Ironwood Package Code : QFE100SE



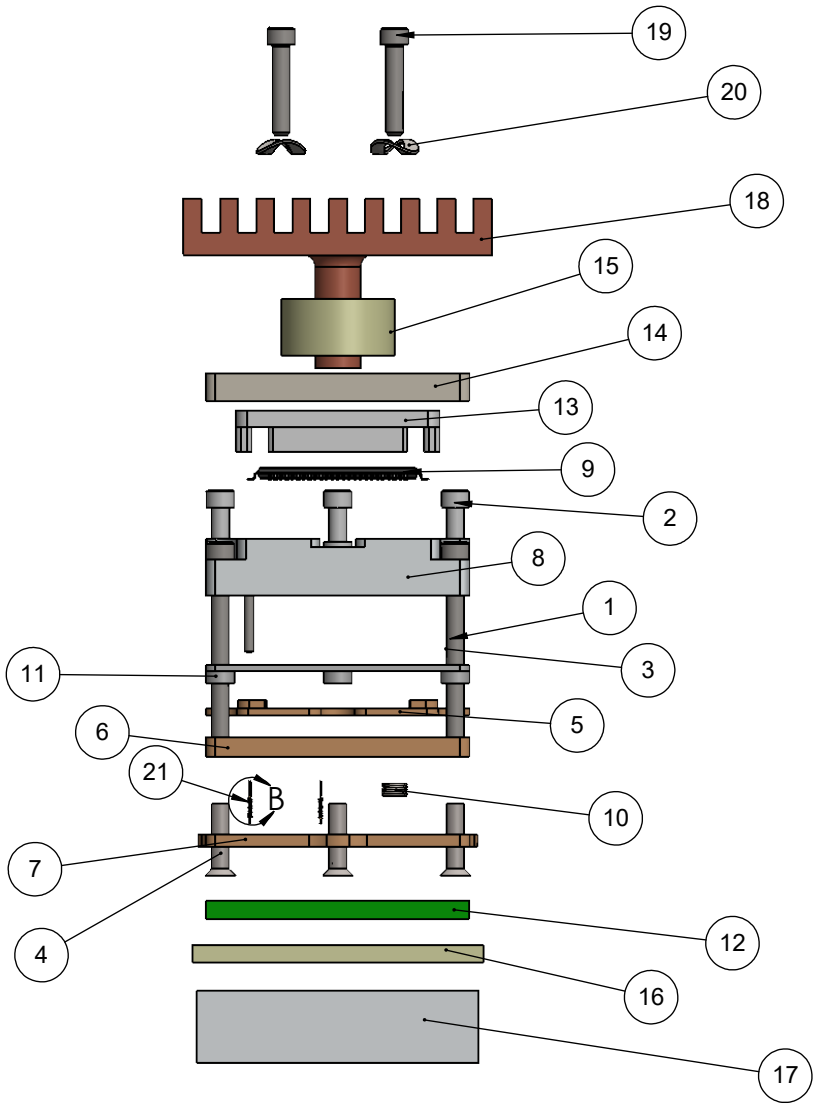


Description: Compatible IC

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 3 OF 7	REV. A
Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish: Weight:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 5:1
		FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	



PIN

DETAIL B
SCALE 16 : 1

ITEM NO.	DESCRIPTION	Material
1	Dowel pin, 1/32" X 1/4", SS	Stainless Steel (18-8)
2	#0-80 Shoulder Screw, 1.59mm thread length	Stainless Steel (303)
3	#0-80 X .625 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
4	#0-80X0.25", 90 deg., head pin guide screw, Peek material	PEEK unfilled
5	CBT-QFE100SE Floating spring pin guide	Semitron MDS 100
6	Middle guide QFE100SE 16x16mm T-T	Semitron MDS 100
7	Bottom CBT pin guide QFE100SE; 0.5mm pitch	Semitron MDS 100
8	Socket Base 18mm	7075-T6 Aluminum Alloy
9	QFE100SE chip	
10	Floating Guide Spring	Alloy Steel (SS)
11	IC Guide, QFE100SE 16x16mm tip-tip	TECAPEEK CMF Ceramic filled
12	QFE100SE test PCB	Material <not specified>
13	Compresion Plate QFE100SE 16mm tip-tip 0.25mm shift	PEEK Ceramic filled
14	Socket Lid with threads for 0-80 screw	7075-T6 Aluminum Alloy
15	Compression Screw M10 with 4.25mm dia hole	7075-T6 (SN)
16	Insulation Plate 18x18mm IC	FR4 Standard
17	Backing Plate 18mm IC	7075-T6 Alumium Alloy
18	1W heatsink	Copper
19	#0-80 X .313 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
20	Single wave washer for 0-80 screw 0.072" ID, 0.170" OD 0.050" overall height	SS
21	Stamped Pin, 0.4mm SBT-BGA	N/A

USER INSTRUCTIONS:

Place QFE100 pacakge in the socket and make sure that the leads are sitting inside the slots of the guide (item#5).
Place compression plate (item#13).
Place swivel socket lid.
Apply 0.6 lbf-in (6.8 newton-cm) of torque on compression screw (item#15).
Place heatsink (item#18) into compression screw (item#15) and fasten with 0-80 screws (item#19) and washers (item#20).

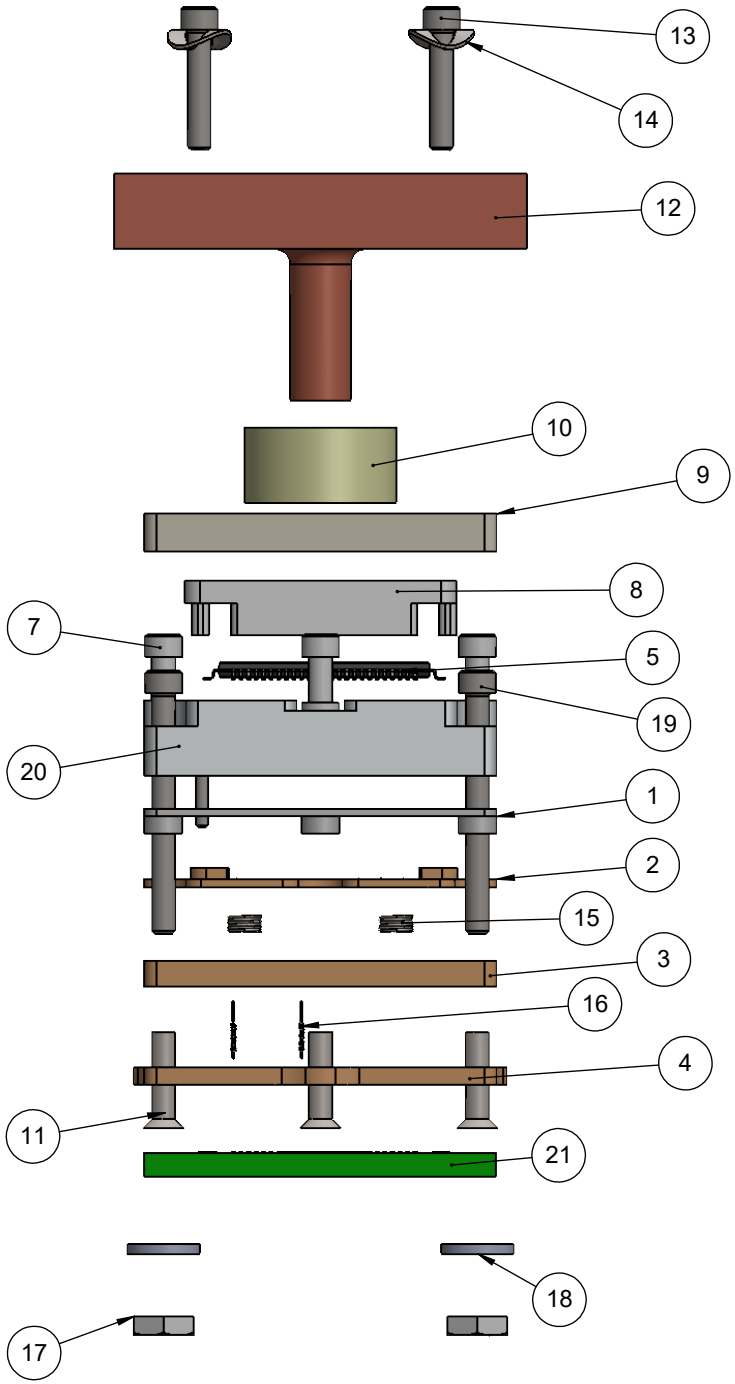
Description: socket exploded view, Pin Det

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 4 OF 7	REV. A
Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish: Weight:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 1.5:1
		FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	

ITEM NO.	Description	Material
1	IC Guide, QFE100SE 16x16mm tip-tip	TECAPEEK CMF Ceramic filled
2	CBT-QFE100SE Floating spring pin guide	Semitron MDS 100
3	Middle guide QFE100SE 16x16mm T-T	Semitron MDS 100
4	Bottom CBT pin guide QFE100SE; 0.5mm pitch	Semitron MDS 100
5	QFE100SE chip	
6	Dowel pin, 1/32" X 1/4", SS	Stainless Steel (18-8)
7	#0-80 Shoulder Screw, 1.59mm thread length	Stainless Steel (303)
8	Compresion Plate QFE100SE 16mm tip-tip 0.25mm shift	PEEK Ceramic filled
9	Socket Lid with threads for 0-80 screw	7075-T6 Aluminum Alloy
10	Compression Screw M10 with 4.25mm dia hole	7075-T6 (SN)
11	#0-80X0.25", 90 deg., head pin guide screw, Peek material	PEEK unfilled
12	1W heatsink	Copper
13	#0-80 X .313 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
14	Single wave washer for 0-80 screw 0.072" ID, 0.170" OD 0.050" overall height	
15	Floating Guide Spring	Alloy Steel (SS)
16	Stamped Pin, 0.4mm SBT-BGA	N/A
17	Nut, #0-80, SS	Stainless Steel (18-8)
18	Washer, #0 x .025", Nylon	Nylon 6/6
19	#0-80 X .625 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE	Alloy Steel
20	Socket Base 18mm	7075-T6 Aluminum Alloy
21	QFE100SE test PCB	Material <not specified>

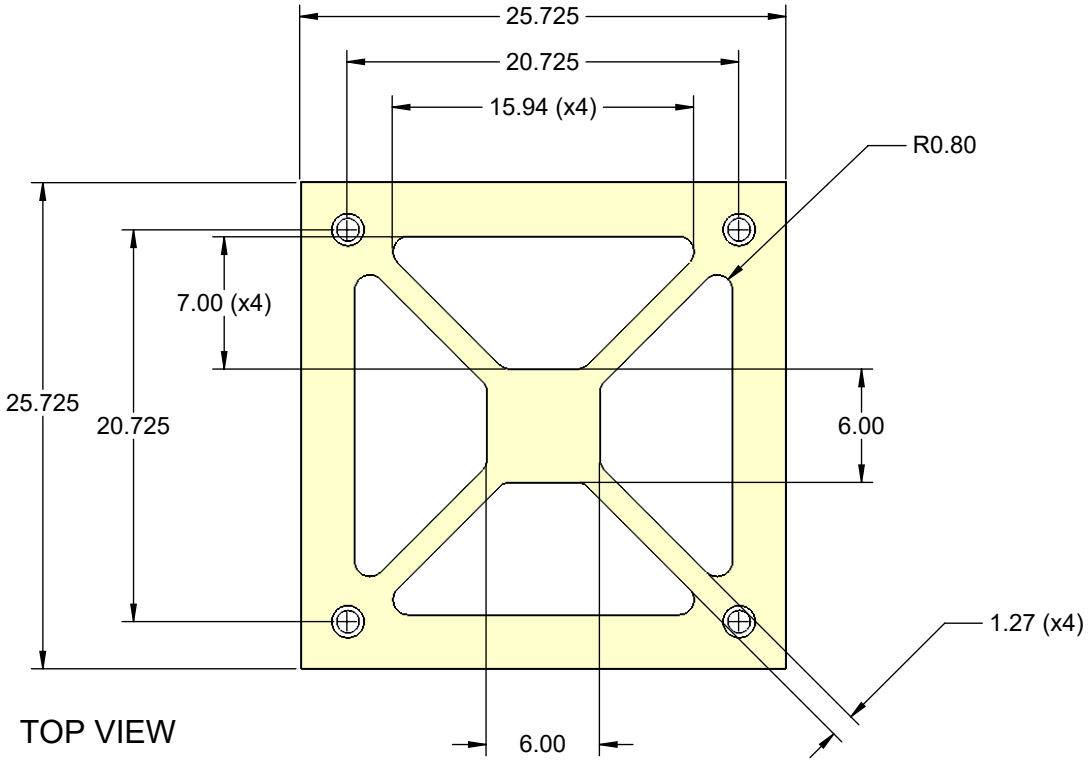


Description: SBT-QFE100SE 0.5mm Pitch 16-16mm T-T with 1W heatsink

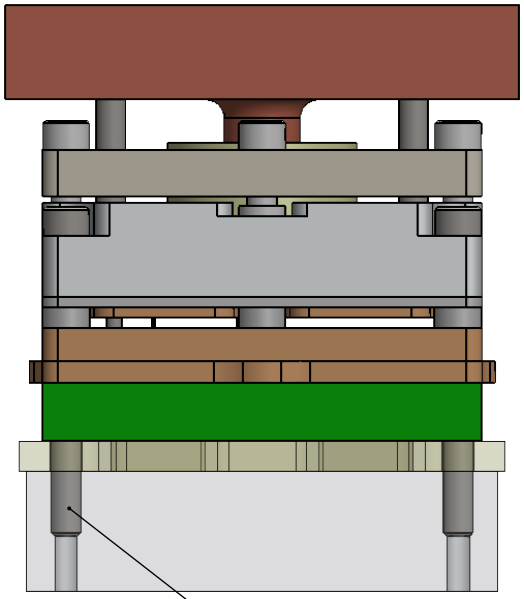
Primary dimension units are millimeters, Secondary dimension units are [inches], Weight is in grams.

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 5 OF 7	REV. A
Ironwood Electronics, Inc. Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish: Weight:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 2:1
		FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	

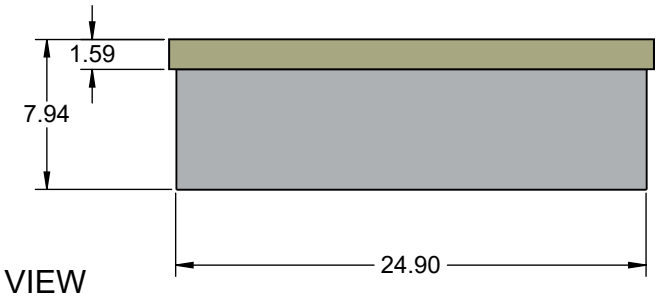


TOP VIEW



#0-80 5/8" long cap, socket head screw

Socket with 0.120" thick target PCB.



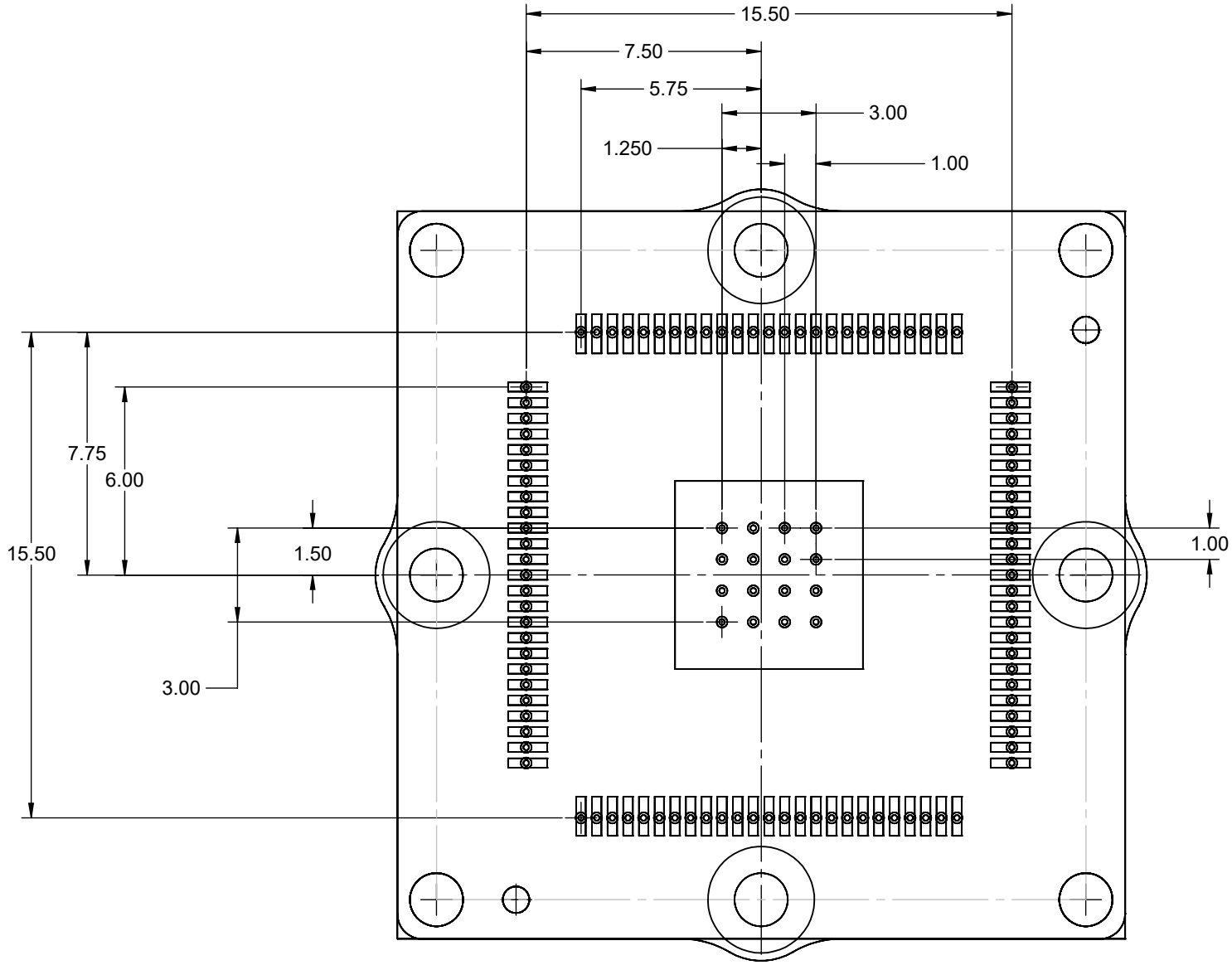
FRONT VIEW

Description: Insulation plate/Backing plate

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 6 OF 7	REV. A
Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 2.5:1
	Weight:	FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	



Spring pin locations

Do NOT locate vias on the target board in these locations
Contact Ironwood for details if necessary

Description: Spring pin location

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.

SBT-QFE-3008 Drawing	Material:	STATUS: Released	SHEET: 7 OF 7	REV. A
 Tele: (800) 404-0204 www.ironwoodelectronics.com	Finish: Weight:	ENG: S. Faiz	DRAWN BY: M. Raske	SCALE: 5:1
		FILE: SBT-QFE-3008 Dwg	DATE: 10/14/2015	