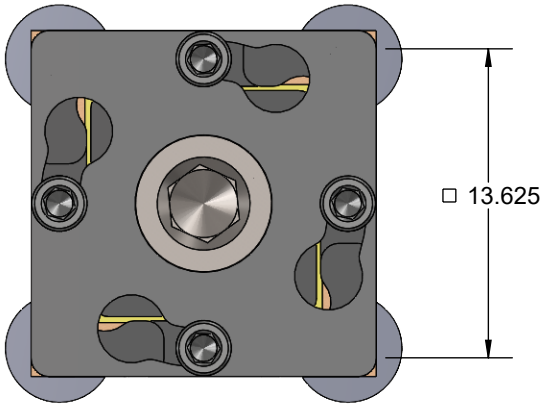
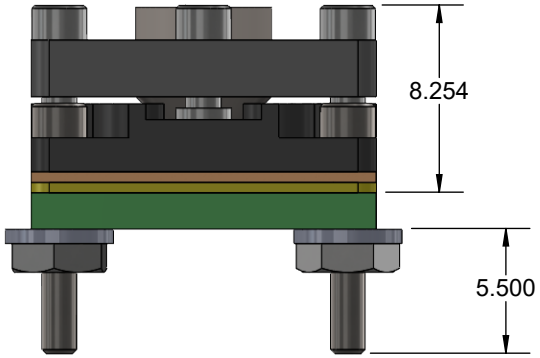
# GHz MLF Socket - Direct mount, solderless

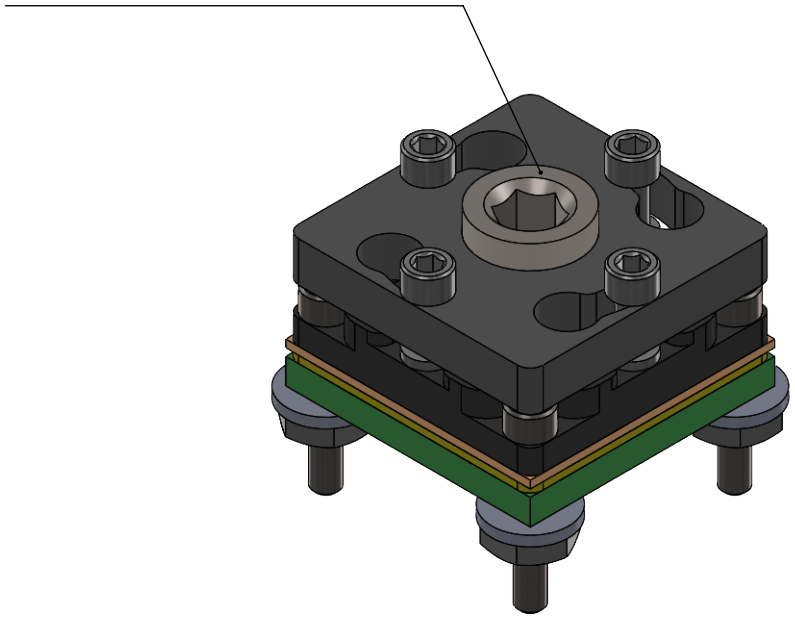
## Features

- Directly mounts to target PCB (needs tooling holes) with hardware
- High speed reliable elastomer connection
- Minimum real estate required
- Compression plate distributes forces evenly
- IC guide prevents over compression of elastomer
- Easily removable socket lid




Recommended torque = 1.25 lbf-in.
(14.1 N-cm)



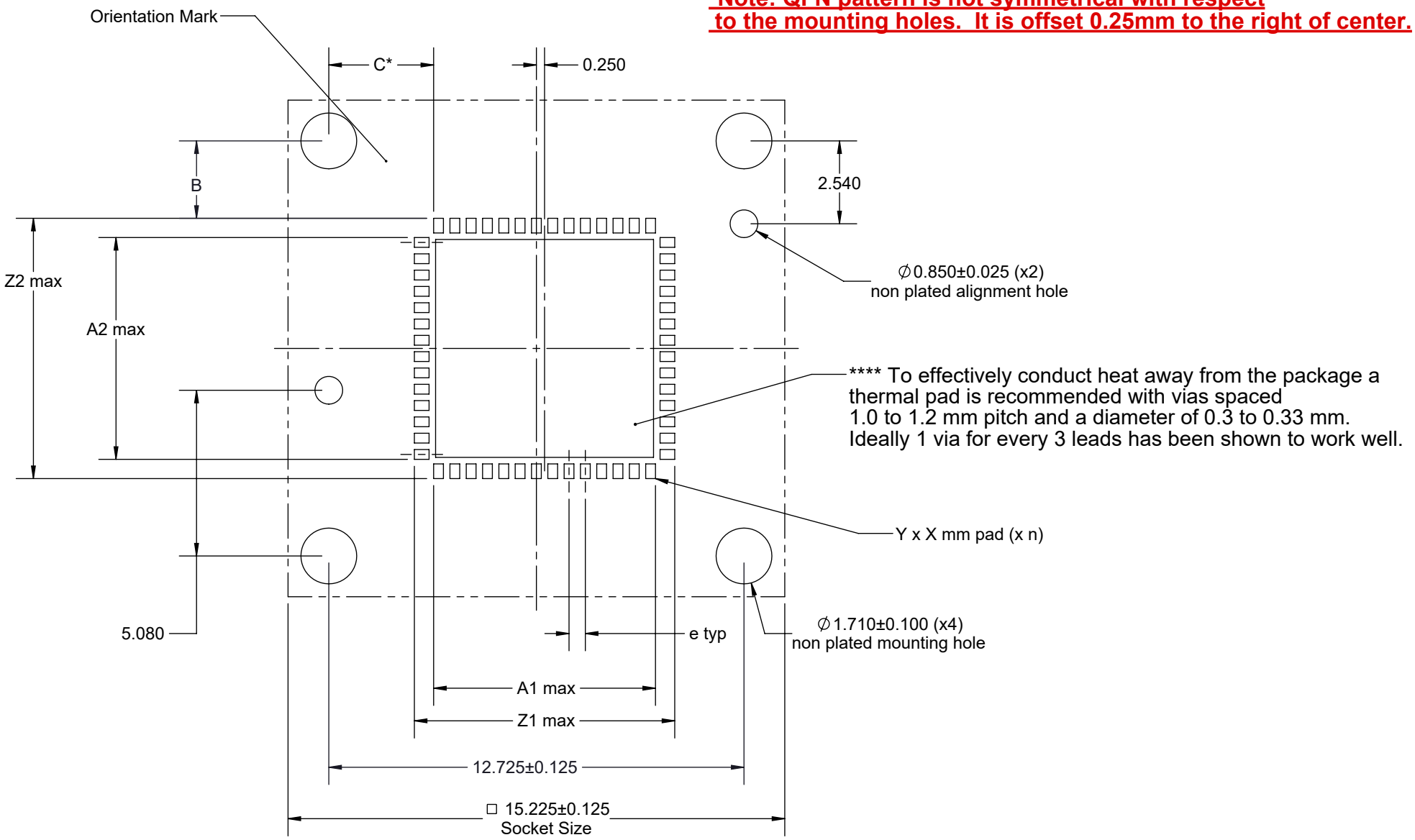
## Description: SG-MLF Socket for 8x8mm

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.

| | | | | |
|---|---|---|---|---|
| **SG-MLF-7007 Drawing** | Material: N/A<br>Finish: N/A<br>Weight: 5.62 | STATUS: Released | SHEET: 1 OF 5 | REV. N |
| Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | | ENG: S. Huang | DRAWN BY: D. Hauer | SCALE: 3:1 |
| | | FILE: SG-MLF-7007 | DATE: 08/19/13 | |

***Note: QFN pattern is not symmetrical with respect to the mounting holes. It is offset 0.25mm to the right of center.**




## Description: Recommended PCB Layout

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

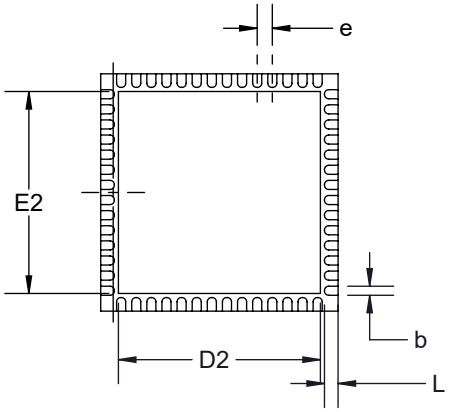
Tolerances: Hole diameters ±0.03mm [±0.001"], Pitches (from true position) ±0.025mm [±0.001"], substrate thickness tolerance ±10%, all other tolerances ±0.13mm [±0.005"] unless stated otherwise. Materials and specifications are subject to change without notice.

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

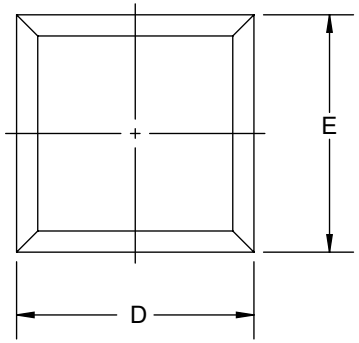
NOTE: Steel backing plate may be required based on end user's application

| | | | | |
|---|---|---|---|---|
| **SG-MLF-7007 Drawing** | Material: N/A<br>Finish: N/A<br>Weight: 5.62 | STATUS: Released | SHEET: 2 OF 5 | REV. N |
| Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | | ENG: S. Huang | DRAWN BY: D. Hauer | SCALE: 6:1 |
| | | FILE: SG-MLF-7007 | DATE: 08/19/13 | |

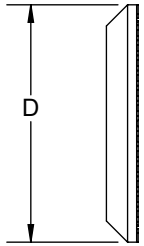
| Package Code | C | B | Z1max | A1max | Z2max | A2 max | e | X | Y | N | Thermal Pad Recommendations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MLF52B | 3.47 | 2.18 | 8.36 | 6.28 | 8.36 | 6.28 | 0.5 | 0.28 | 0.94 | 52 | 6.08 x 6.08 |
| MLF56A | 3.22 | 2.18 | 8.36 | 6.78 | 8.36 | 6.78 | 0.5 | 0.28 | 0.69 | 56 | 6.58 x 6.58 |
| QFN56B | 3.56 | 2.26 | 8.2 | 6.1 | 8.2 | 6.1 | 0.45 | 0.25 | 0.8 | 56 | 6x6 |
| MLF40B | 3.5 | 2.18 | 8.36 | 6.22 | 8.36 | 6.22 | 0.65 | 0.37 | 0.97 | 40 | 6.02 x 6.02 |
| MLF32C | 3.6 | 2.18 | 8.36 | 6.02 | 8.36 | 6.02 | 0.8 | 0.42 | 1.06 | 32 | 5.84 x 5.84 |
| MLF68B | 3.29 | 2.26 | 8.2 | 6.65 | 8.2 | 6.65 | 0.4 | 0.25 | 0.6 | 68 | 6.4 x 6.4 |
| MLF48B | 3.72 | 2.18 | 8.36 | 5.78 | 8.36 | 5.78 | 0.5 | 0.28 | 0.73 | 48 | 6.5 x 6.5 |
| MLF64C | 3.49 | 2.26 | 8.2 | 6.25 | 8.2 | 6.25 | 0.4 | 0.25 | 0.6 | 64 | 6.4 x 6.4 |




BOTTOM VIEW




TOP VIEW




SIDE VIEW

**Socket designed to accommodate package nominal size +0.05mm. If the device measures more than +0.05mm, please contact Ironwood Electronics so we can work with you to accommodate your package.**

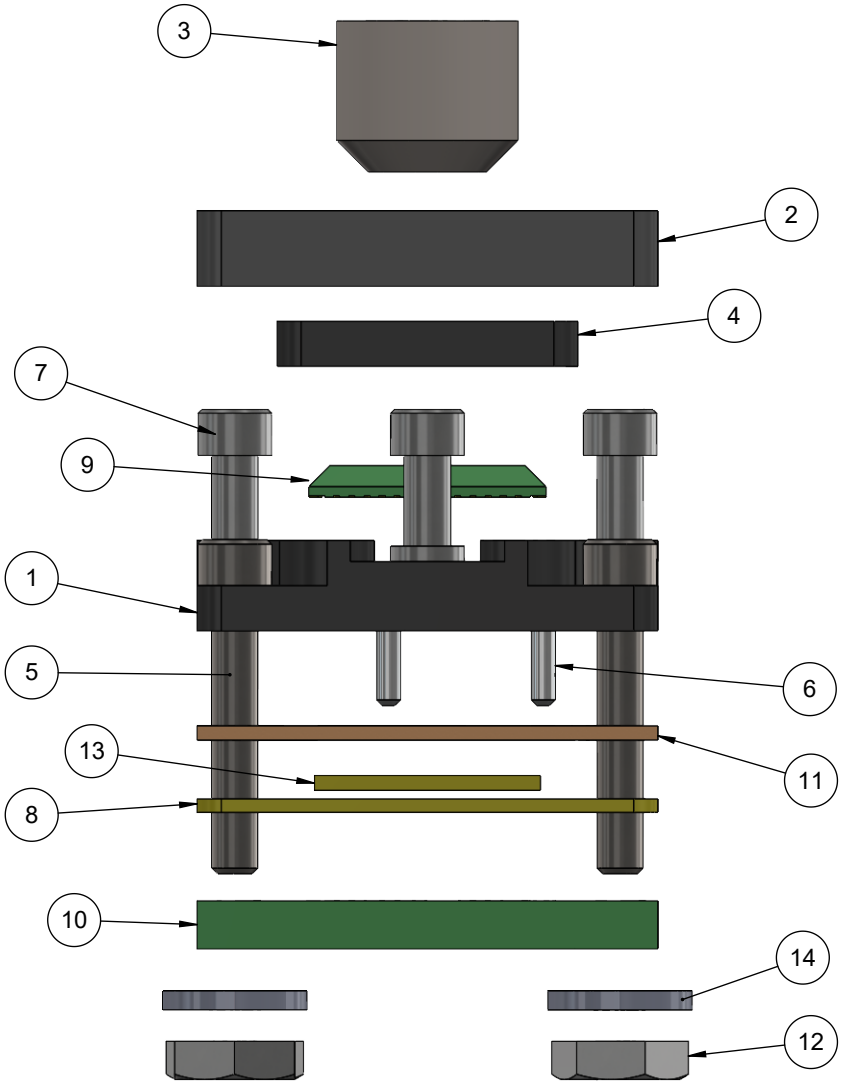
| Package Code | e | D min | D max | E min | E max | b min | b max | L min | L max | D2 |
|---|---|---|---|---|---|---|---|---|---|---|
| MLF52B | 0.5 | 7.9 | 8.1 | 7.9 | 8.1 | 0.18 | 0.3 | 0.5 | 0.75 | 6.18 |
| MLF56A | 0.5 | 7.9 | 8.1 | 7.9 | 8.1 | 0.18 | 0.3 | 0.3 | 0.5 | 6.68 |
| QFN56B | 0.45 | 7.9 | 8.1 | 7.9 | 8.1 | 0.15 | 0.25 | 0.35 | 0.45 | 4 |
| MLF40B | 0.65 | 7.9 | 8.1 | 7.9 | 8.1 | 0.23 | 0.35 | 0.5 | 0.75 | 6.12 |
| MLF32C | 0.8 | 7.9 | 8.1 | 7.9 | 8.1 | 0.28 | 0.4 | 0.5 | 0.75 | 5.94 |
| MLF68B | 0.4 | 7.9 | 8.1 | 7.9 | 8.1 | 0.15 | 0.25 | 0.35 | 0.45 | 6.3 |
| MLF48B | 0.5 | 7.9 | 8.1 | 7.9 | 8.1 | 0.18 | 0.3 | 0.3 | 0.5 | 6.8 |
| MLF64C | 0.4 | 7.9 | 8.1 | 7.9 | 8.1 | 0.15 | 0.25 | 0.3 | 0.5 | 6.3 |

## Description: Compatible Device

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.

| | | | | |
|---|---|---|---|---|
| **SG-MLF-7007 Drawing**<br>Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | Material: N/A<br>Finish: N/A<br>Weight: 5.62 | STATUS: Released | SHEET: 3 OF 5 | REV. N |
| | | ENG: S. Huang | DRAWN BY: D. Hauer | SCALE: 4:1 |
| | | FILE: SG-MLF-7007 | DATE: 08/19/13 | |




| ITEM NO. | DESCRIPTION | Material |
|---|---|---|
| 1 | GHz Socket Base 10mm IC 3mm Thk | 7075-T6 Aluminum Alloy |
| 2 | Socket Lid | 7075-T6 Aluminum Alloy |
| 3 | Compression Screw M6x1 | Stainless Steel (18-8) |
| 4 | Compression Plate 9.95 x 1.5mm | 7075-T6 Aluminum Alloy |
| 5 | #0-80 X .375 LG, SOC HD CAP SCREW, ALLOY STL, BLK OXIDE | Alloy Steel |
| 6 | Alignment Pin 1/32" dia. x 1/8" lng | Chrome Stainless Steel |
| 7 | #0-80 Shoulder Screw, 1.59mm thread length | Stainless Steel (303) |
| 8 | IC Guide | Torlon 4203 |
| 9 | Test Chip | FR4 High temp |
| 10 | Test PCB | FR4 High temp |
| 11 | Elast Gde 10x10mm 0.475mm Thk | Ultem |
| 12 | Nut, #0-80, SS | Stainless Steel (18-8) |
| 13 | 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 |
| 14 | Washer, #0 x .025", Nylon | Nylon 6/6 |

## Description: Socket, Backing Plate Detail

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.

| | | | | |
|---|---|---|---|---|
| **SG-MLF-7007 Drawing** | Material: N/A<br>Finish: N/A<br>Weight: 5.62 | STATUS: Released | SHEET: 4 OF 5 | REV. N |
| Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | | ENG: S. Huang | DRAWN BY: D. Hauer | SCALE: 4:1 |
| | | FILE: SG-MLF-7007 | DATE: 08/19/13 | |

| Rev | Date | Initials | Description |
|---|---|---|---|
| A | - | - | Original |
| B | 3/24/03 | ELS | Update the format of the drawing to math others |
| C | 11/25/03 | MAF | Added Thermal pad info |
| D | 11/18/04 | HH | Added MLF48B line item to drawing. |
| E | 12/16/06 | MAF | Update aluminum info<br>updated address info<br>updated tables |
| F | 5/12/08 | UQ | Added QFN68B pattern to the tables. |
| G | 6/4/09 | AE | Changed socket lid screw from socket head cap screw to shoulder screw |
| H | 6/22/09 | VP | Added QFN64C pattern. |
| I | 11/24/09 | SN | 1. Changed the socket base thickness to 3mm from 5mm<br>2. Changed the compression plate thickness to 1.5mm from 2.5mm |
| J | 3/8/12 | SH | Added QFN56B pattern to the tables. |
| K | 11/11/14 | DH/MR | Update PDF, IC Guide Mat'l chg |
| L | 3/2/16 | MR/MAF | changed Description to 8x8 per MAF |
| M | 1/24/20 | MR/MAF | added note regarding accommodating your package. |
| N | 9/24/20 | MR/MAF | corrected exploded vw |

## Description: Revisions

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

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| | | | | |
|---|---|---|---|---|
| **SG-MLF-7007 Drawing** | Material: | STATUS: Released | SHEET: 5 OF 5 | REV. N |
| Ironwood Electronics, Inc.<br>Tele: (800) 404-0204<br>www.ironwoodelectronics.com | Finish:<br>Weight: | ENG: S. Huang | DRAWN BY: D. Hauer | SCALE: 4:1 |
| | | FILE: SG-MLF-7007 | DATE: 08/19/13 | |