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Finisar

Product Specification

10G Serial Laserwire™ Jack

FCBJ110LE1

PRODUCT FEATURES

- Small footprint 10G serial port
- RJ-45 width
- RoHS-6 compliant (lead-free)
- Extended temperature range
-5°C to 85°C
- Enables high-density
- Copper contacts



APPLICATIONS

- Host-board connector for Laserwire™ cables
- High-density switches
- NIC applications
- LAN On Motherboard

Finisar's FCBJ110LE1 Laserwire™ Jack is the host-board connector for Laserwire™ active cables (P/N FCBP110LD1Lxx and FCBC110LD1Lxx). The Laserwire™ Jack provides the smallest connector host-board footprint compared to alternative 10G serial solutions. An evaluation board (P/N FDB-1033) is also available.

PRODUCT SELECTION

| |
|-------------------|
| FCBJ110LE1 |
|-------------------|

I. Pin Descriptions

| Pin | Symbol | Name/Description | Note |
|-----|-----------------|--|------|
| 1 | V _{EE} | Ground | 1 |
| 2 | TX- | Transmitter Inverted DATA in | |
| 3 | TX+ | Transmitter Non-Inverted DATA in | |
| 4 | V _{EE} | Ground | 1 |
| 5 | V _{CC} | Power Supply (+3.3V ± 5%) | |
| 6 | F | Fault signal | 2 |
| 7 | CAB-ABS | Cable absent, connected to Vee within cable plug | 3 |
| 8 | NC | NC | 4 |
| 9 | V _{EE} | Ground | 1 |
| 10 | RX+ | Receiver Non-inverted DATA out | |
| 11 | RX- | Receiver Inverted DATA out | |
| 12 | V _{EE} | Ground | 1 |

Notes:

1. Circuit ground is internally isolated from chassis ground.
2. Open collector output. Should be pulled up with 4.7kΩ - 10kΩ on host board to a voltage between 2.0V and 3.6V. High indicates a fault condition.
3. Should be pulled up with 4.7kΩ - 10kΩ on host board to a voltage between 2.0V and 3.6V. High indicates no cable present
4. Reserved for future applications. No Connect in Host.

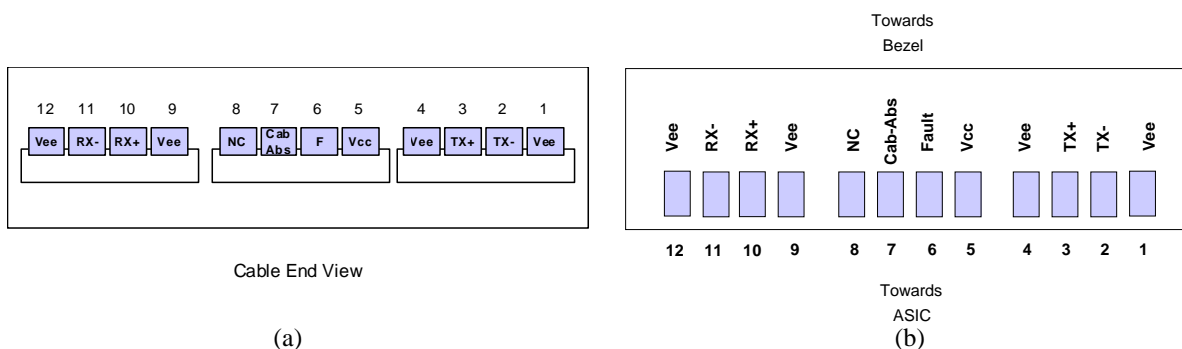


Figure 1. Pinout : (a) Cable plug end view, (b) host board decal top view.

II. Absolute Maximum Ratings

| Parameter | Symbol | Min | Typ | Max | Unit | Note |
|----------------------------|-----------------|------|-----|-----|------|------|
| Maximum Supply Voltage | V _{CC} | -0.5 | | 4.0 | V | |
| Storage Temperature | T _S | -40 | | 100 | °C | |
| Case Operating Temperature | T _{OP} | -5 | | 85 | °C | |
| Relative Humidity | RH | 0 | | 85 | % | 1 |

Notes:

1. Non-condensing.

III. Application Note of Recommended Host-Board Connections

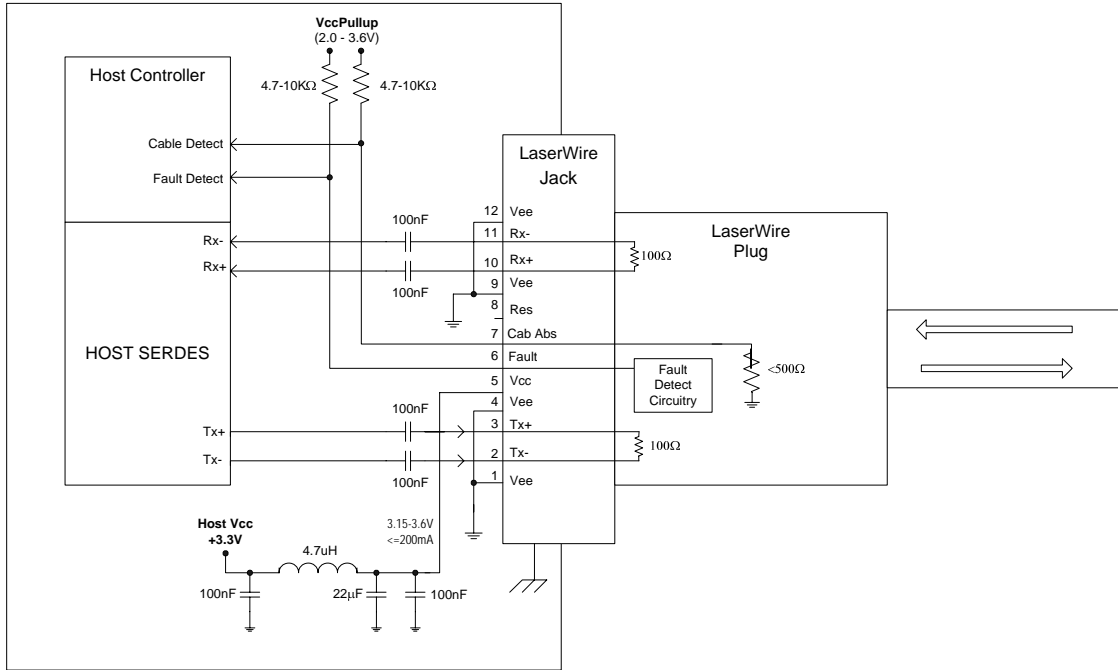


Figure 2. Recommended host board configuration showing power supply filtering, AC coupling caps, and status pull-up resistors.

IV. Materials

| | |
|----------------|--|
| Housing | Cast zinc, nickel plated |
| EMI Shields | Stainless steel |
| Mounting Posts | Stainless steel, nickel plated |
| Contacts | Copper alloy, gold plated |
| Insulators | Liquid crystal polymer, glass filled, 94V-0 flammability rating |

V. Regulatory Compliance

Finisar Laserwire™ Jack is RoHS Compliant. Copies of certificate are available at Finisar Corporation upon request.

VI. Mechanical Specifications

The PCB attachment process requires manual insertion. The mounting posts are thru-hole soldered and the contacts are surface mount reflow soldered.

PCB should be compatible with 10G RF design and lead free soldering

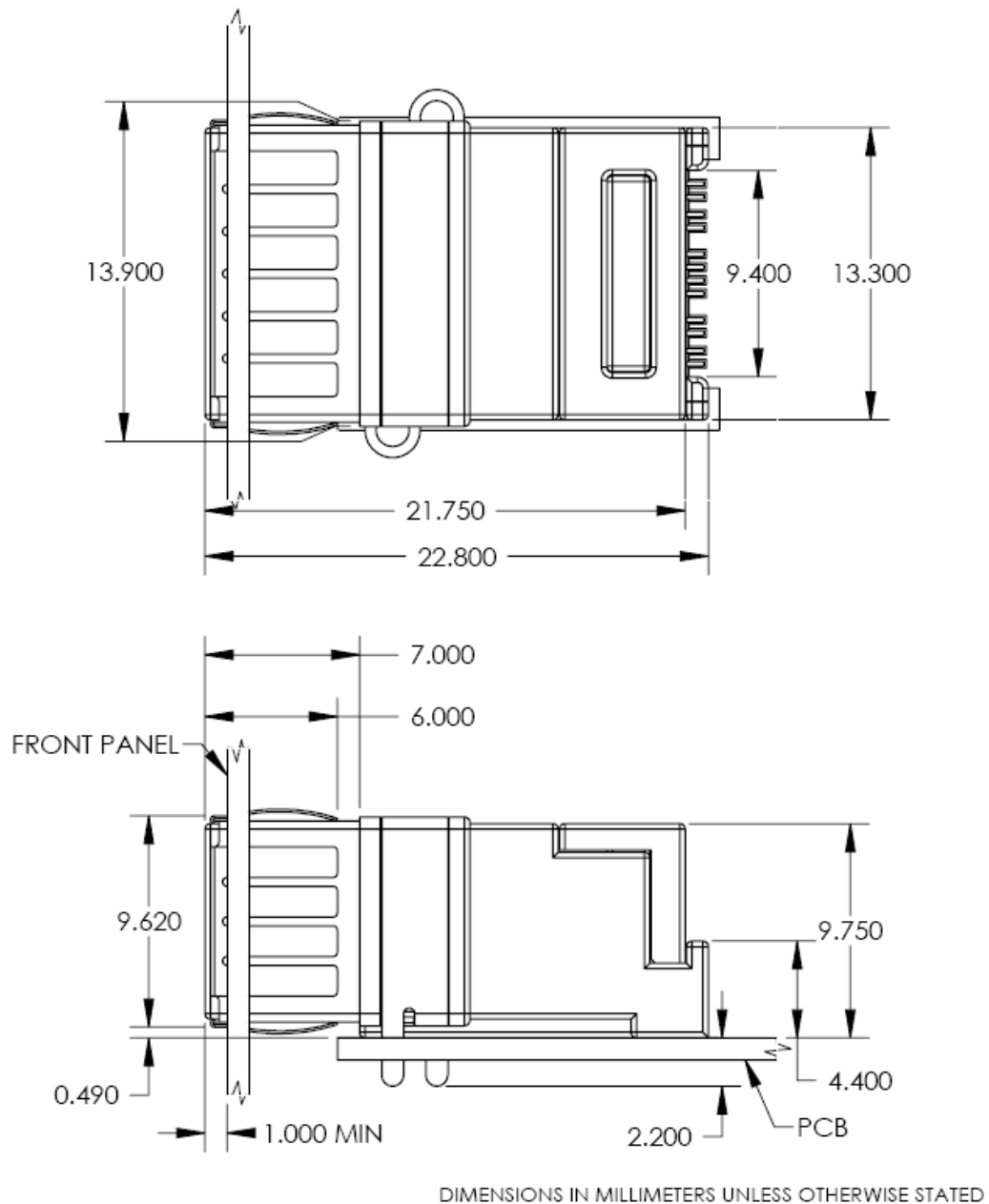


Figure 3. Top view and side view (with sample bezel shown).

VII. PCB Layout and Bezel Recommendations

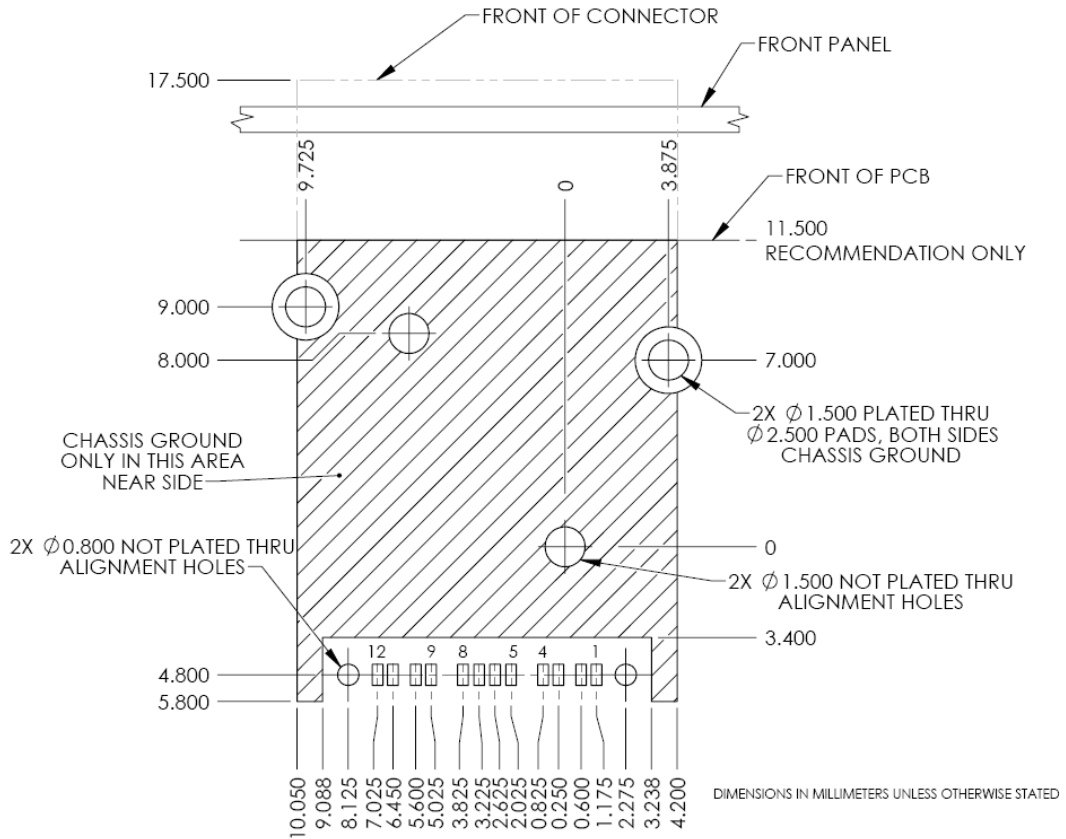
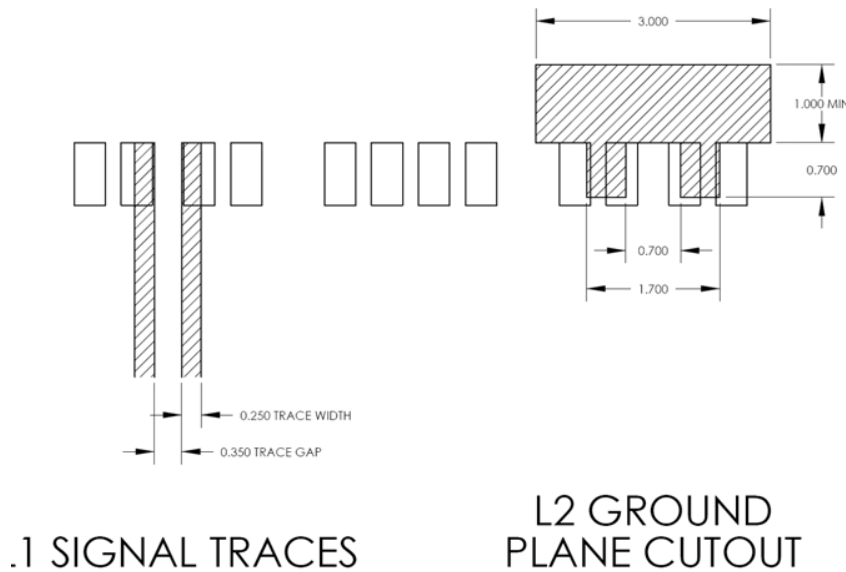


Figure 4. Host PCB layout (component side).



**Figure 5. Layout rules for a 0.15mm L1-L2 stackup (top view).
 Adjustment of these dimensions is required if a different stackup is utilized.**

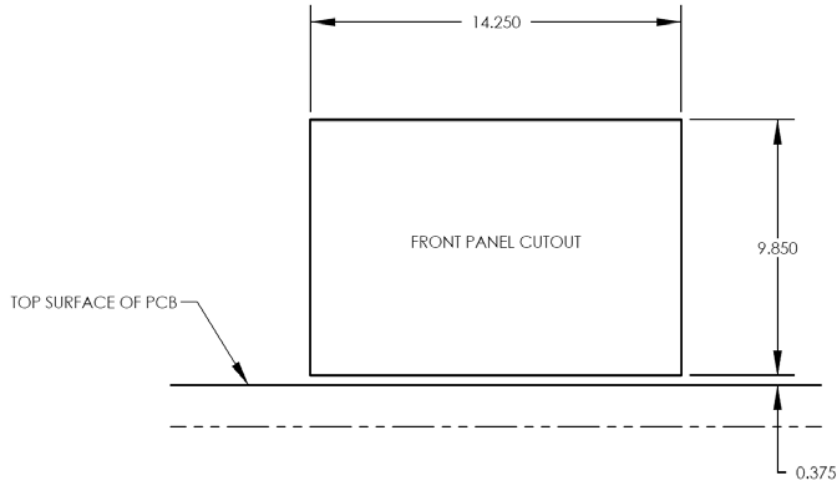


Figure 6. Bezel position dimensions

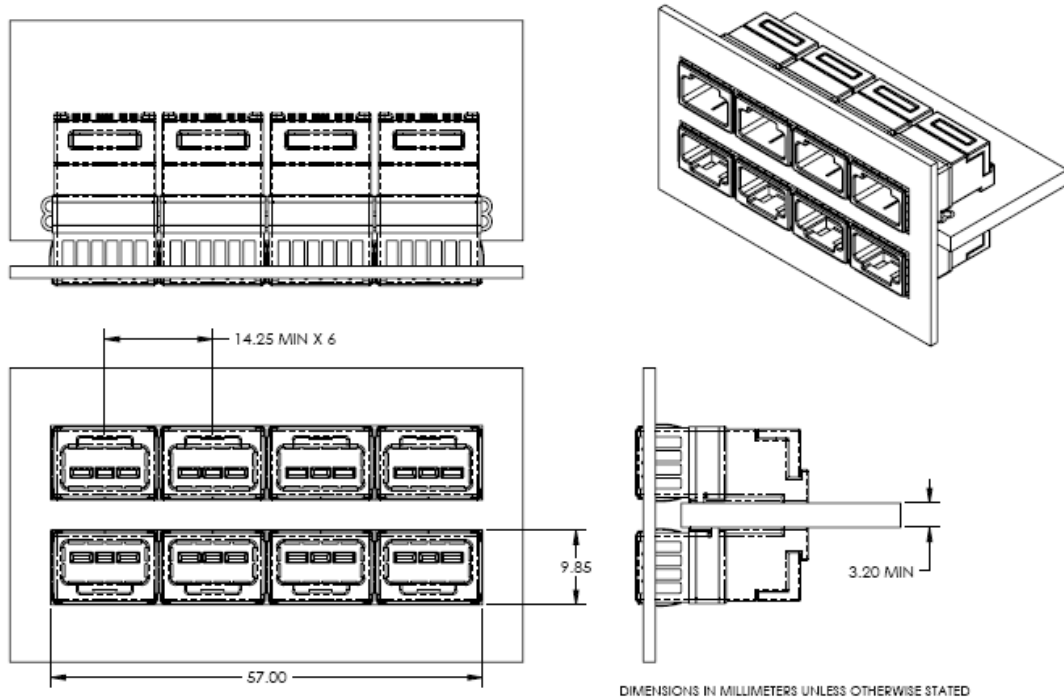


Figure 7. High-density 14.25mm x 4 x 2 sided (belly-to-belly) configuration

VIII. References

1. SFF-8431 – SFP+ Specifications, SFF Committee.

X. For More Information

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