

## 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

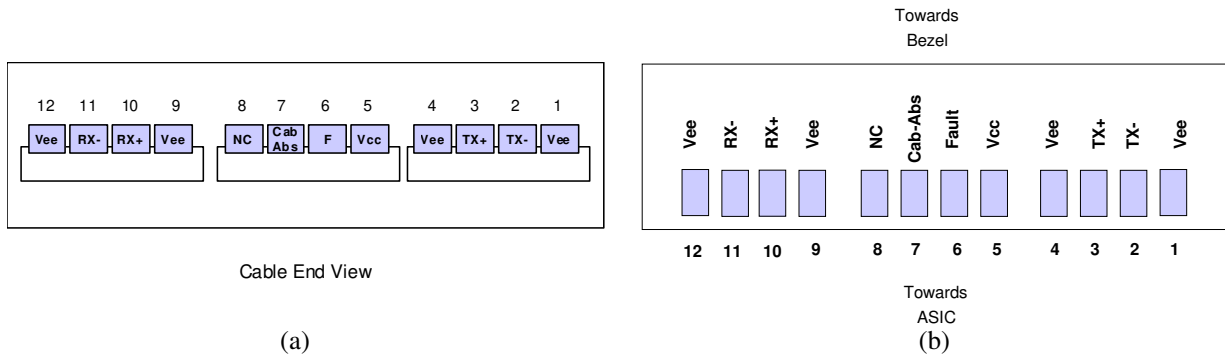
**FCBJ110LE1**

**I. Pin Descriptions**

Pin	Symbol	Name/Description	Note
1	V <sub>EE</sub>	Ground	1
2	TX-	Transmitter Inverted DATA in	
3	TX+	Transmitter Non-Inverted DATA in	
4	V <sub>EE</sub>	Ground	1
5	V <sub>CC</sub>	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 <sub>EE</sub>	Ground	1
10	RX+	Receiver Non-inverted DATA out	
11	RX-	Receiver Inverted DATA out	
12	V <sub>EE</sub>	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 <sub>CC</sub>	-0.5		4.0	V	
Storage Temperature	T <sub>S</sub>	-40		100	°C	
Case Operating Temperature	T <sub>OP</sub>	-5		85	°C	
Relative Humidity	RH	0		85	%	1

Notes:

1. Non-condensing.

### III. Application Note of Recommended Host-Board Connections

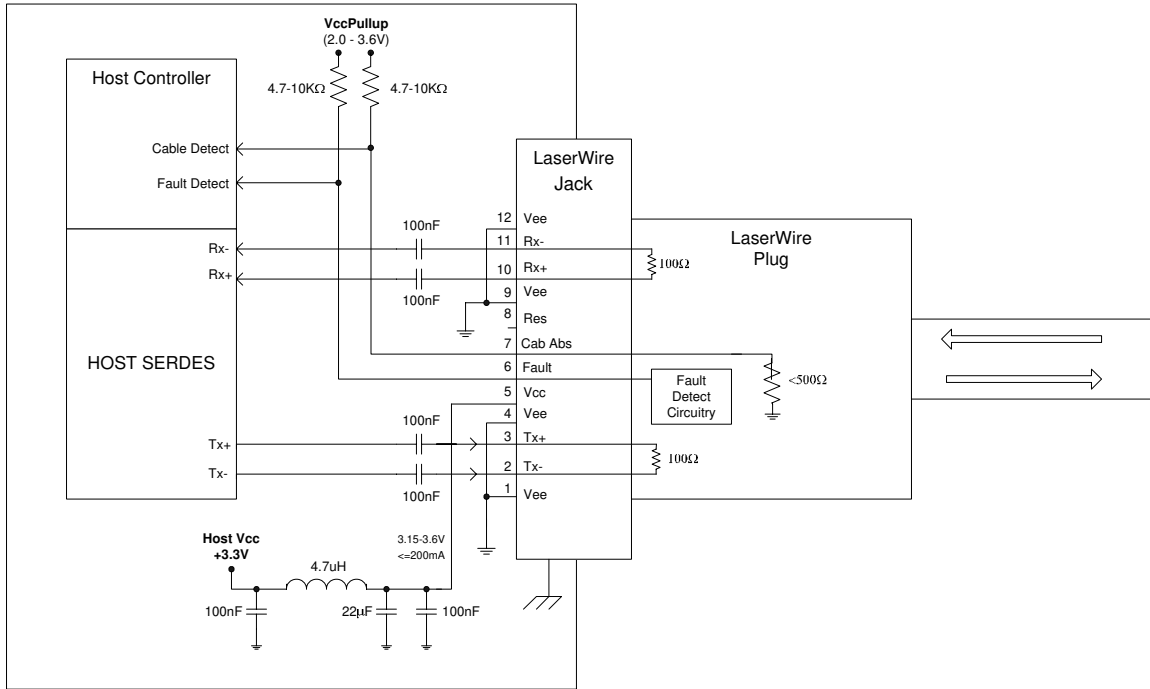


Figure 2. Recommended host board configuration showing power supply filtering, AC coupling caps, and status pull-up resistors.

### 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

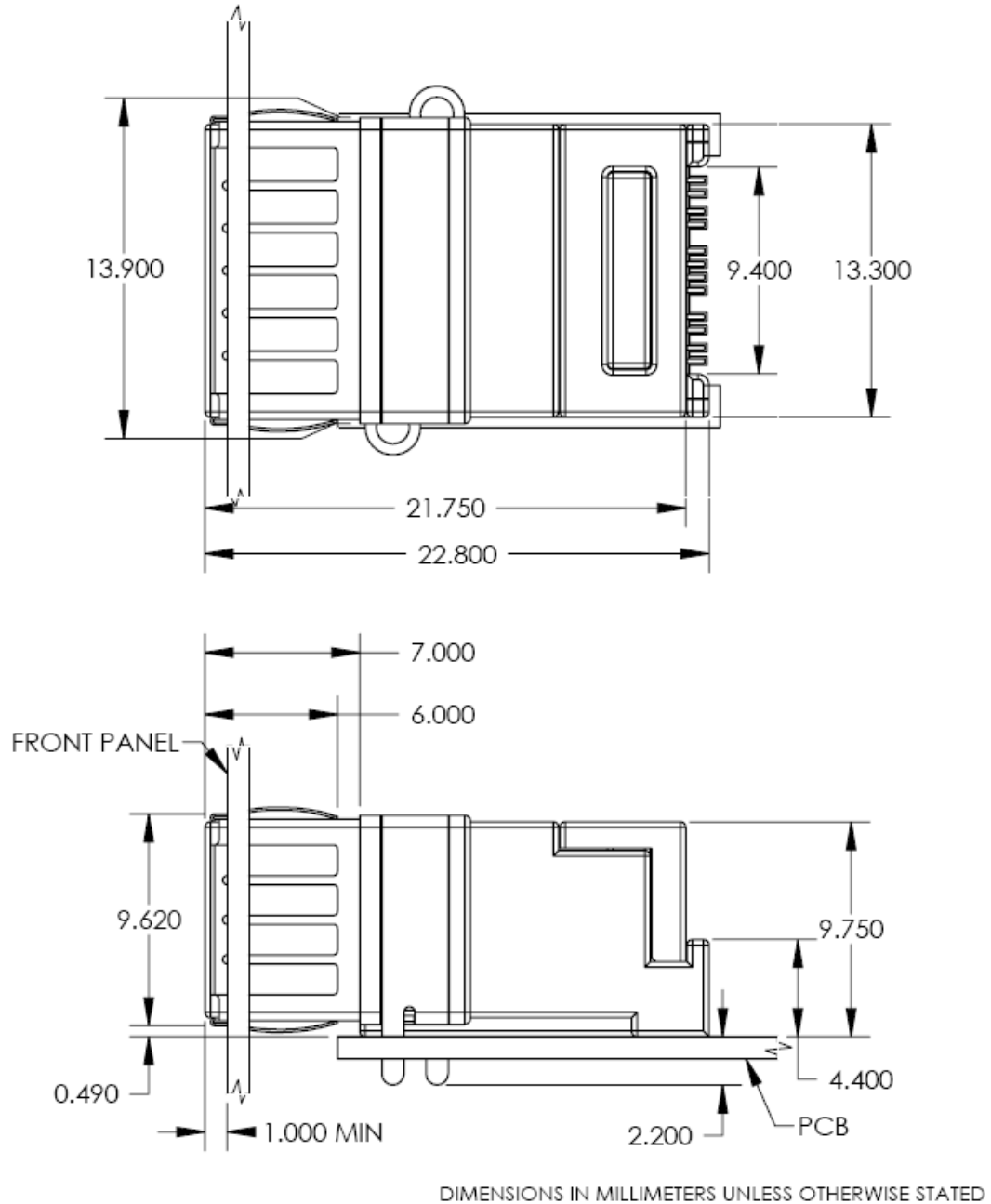
### V. Regulatory Compliance

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

**VI. Mechanical Specifications**

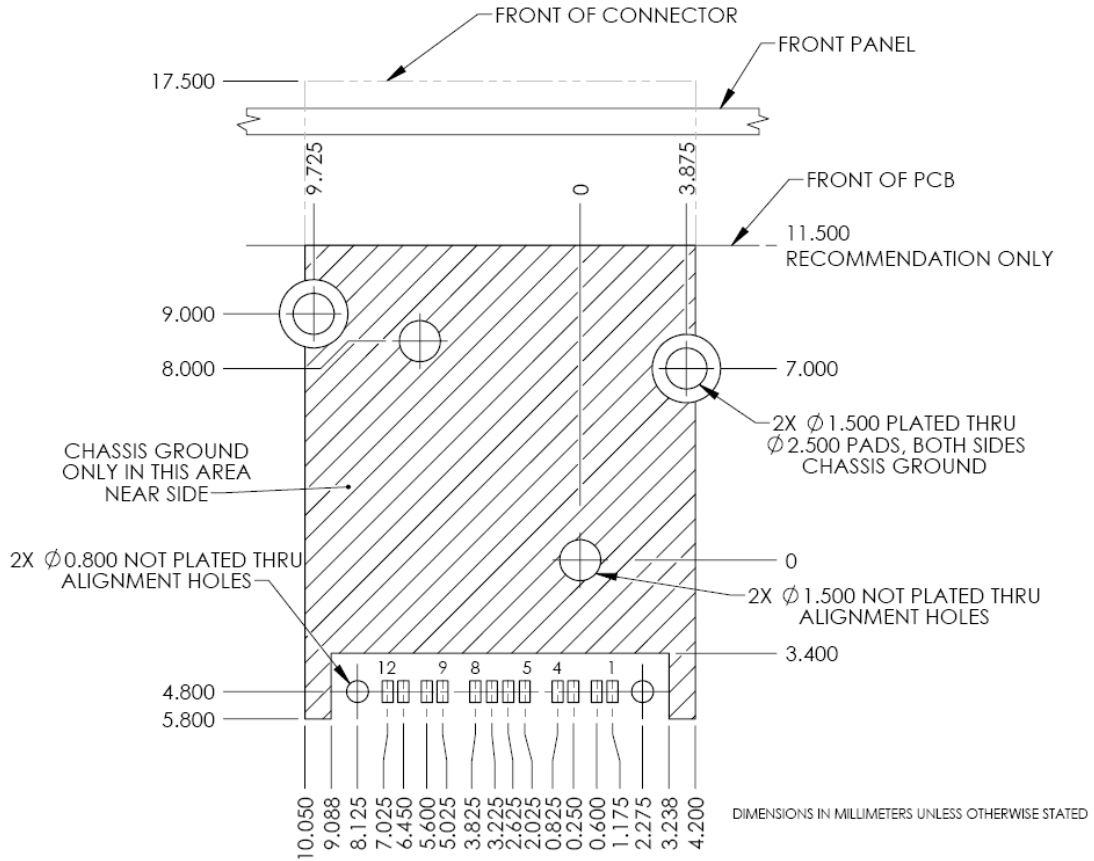
The PCB attachment process requires manual insertion. The mounting posts are thru-hole soldered and the contacts are surface mount reflow soldered.

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

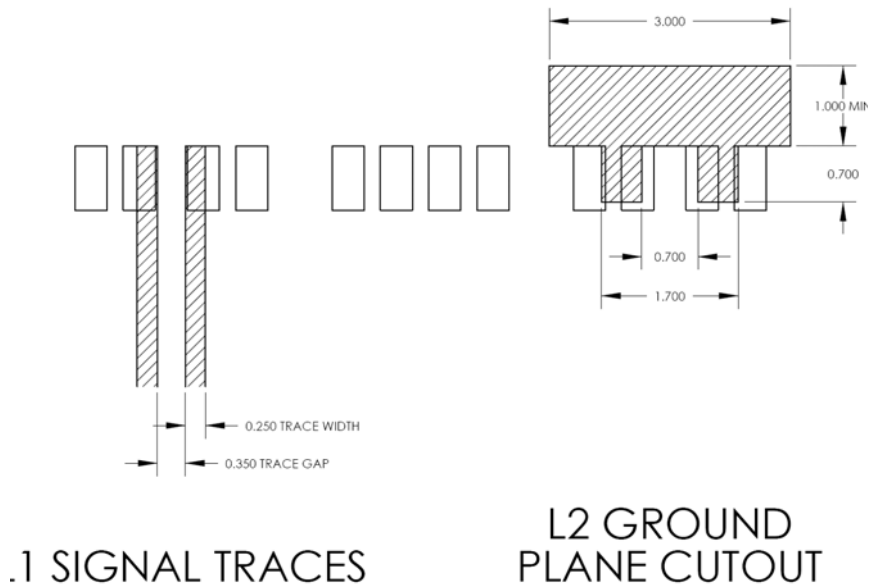


**Figure 3. Top view and side view (with sample bezel shown).**

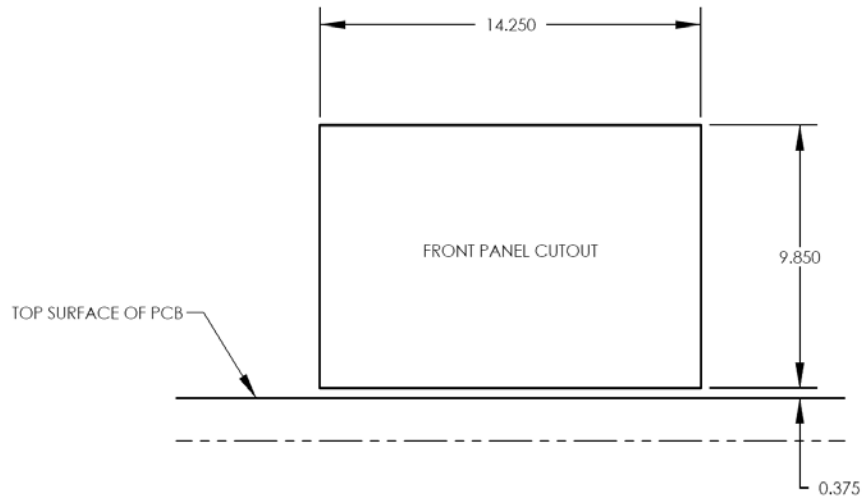
**VII. PCB Layout and Bezel Recommendations**



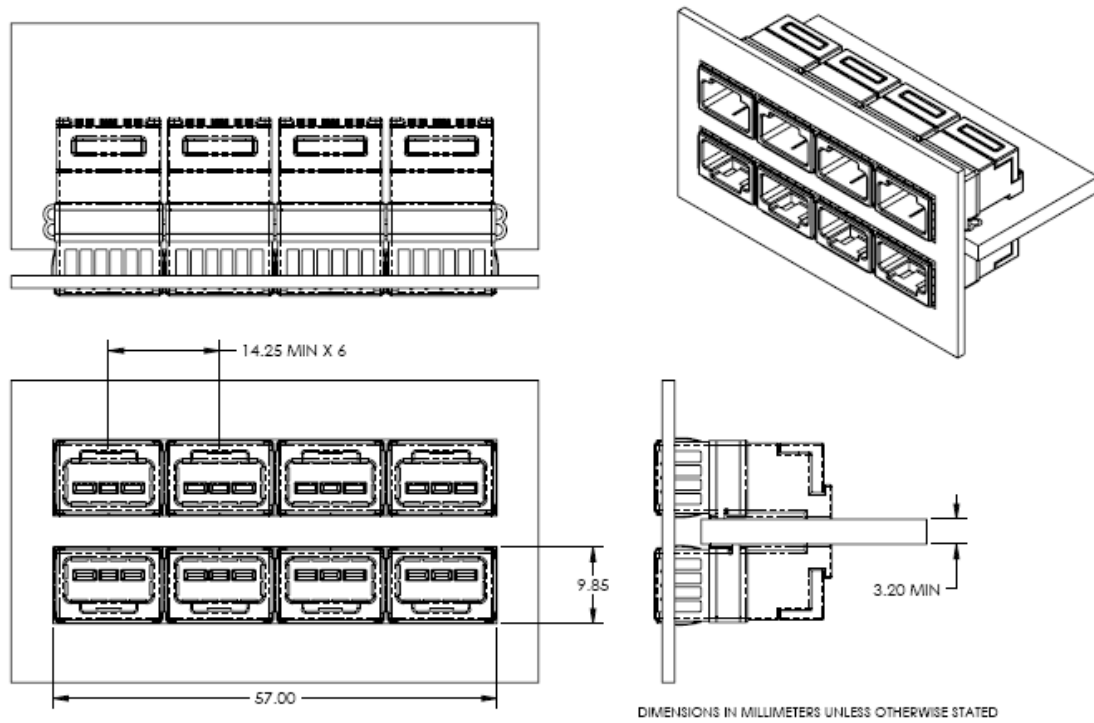
**Figure 4. Host PCB layout (component side).**



**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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