

C-13-010-TX-SXXXX



Features

- Uncooled FP Laser diode with MQW structure
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Integrated 4-pin TO-18 TOSA package, with built-in isolator, for SC/LC connector
- Designed for 10Gbps Ethernet application.

Absolute Maximum Rating (Tc=25°C)

| Parameter | Symbol | Value | Unit |
|---|-----------|----------------|------|
| Fiber Output Power (Middle power) (High power) | P_O | 3(CW) 4(CW) | mW |
| LD Reverse Voltage | V_{RLD} | 2 | V |
| LD Forward Current | I_{FLD} | 150 | mA |
| PD Reverse Voltage | V_{RPD} | 10 | V |
| PD Forward Current | I_{FPD} | 2.0 | mA |
| Operating Temperature | T_{opr} | 0 to +85 | °C |
| Storage Temperature | T_{stg} | -40 to +85 | °C |

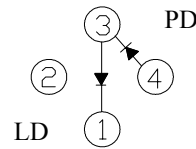
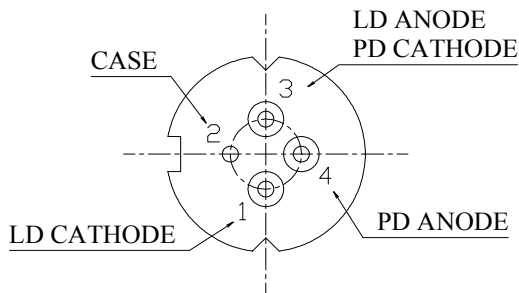
(All optical data refer to a coupled 9/125 μ m SM fiber)

Optical and Electrical Characteristics(T=0 to 85°C unless otherwise noted)

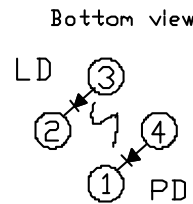
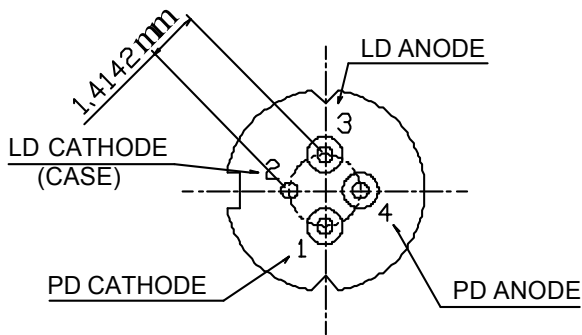
| Parameter | Symbol | Min | Typical | Max | Unit | Test Condition |
|---|--------------------|------------|---------|----------|---------|--|
| Threshold Current | I_{th} | - | 8 | 12 | mA | T=25°C |
| Optical Output Power (Middle power) (High power) | P_O | 0.3 1.5 | - | 1 2.5 | mW | $I_{op}=40mA, CW, T=25^\circ$ |
| Operating Current | I_{op} | - | 40 | - | mA | T=25°C |
| Peak Wavelength | λ | 1295 | 1310 | 1325 | nm | CW, T=25°, @ I_{op} |
| Spectral Width (RMS) | $\Delta\lambda$ | - | 2 | 5 | nm | $P_O=2mW, CW$ |
| Forward Voltage | V_F | - | 1.5 | - | V | CW, @ I_{op} |
| Rise/Fall Time, 20 to 80% | t_r/t_f | - | 40 | - | ps | |
| Relative Intensity Noise | RIN | - | - | -130 | dB/Hz | CW, T=25°C, @ I_{op} |
| Tracking Error | $\Delta P_f / P_f$ | -1.5 | - | 1.5 | dB | $I_m=constant, CW$ |
| PD Monitor Current | I_m | 100 | - | - | μA | CW, $V_{RPD}=5V, T=25^\circ C$ @ I_{op} |
| PD Dark Current | I_{DARK} | - | - | 0.1 | μA | $V_{RPD}=5V$ |
| PD Capacitance | C_t | - | 6 | 15 | pF | $V_{RPD}=5V, f=1MHz$ |

* 10.3125 Gb/s PRBS 2³¹-1, Er=6.0dB, @ I_{op} and T=25°C

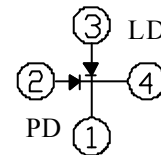
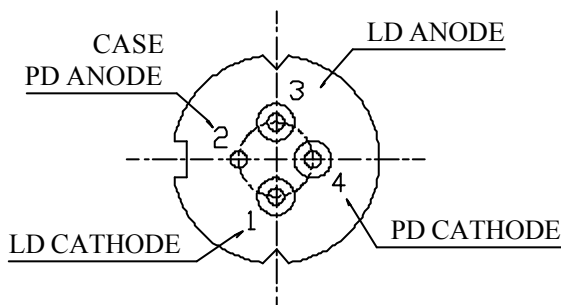
Bottom view



G Type



J Type

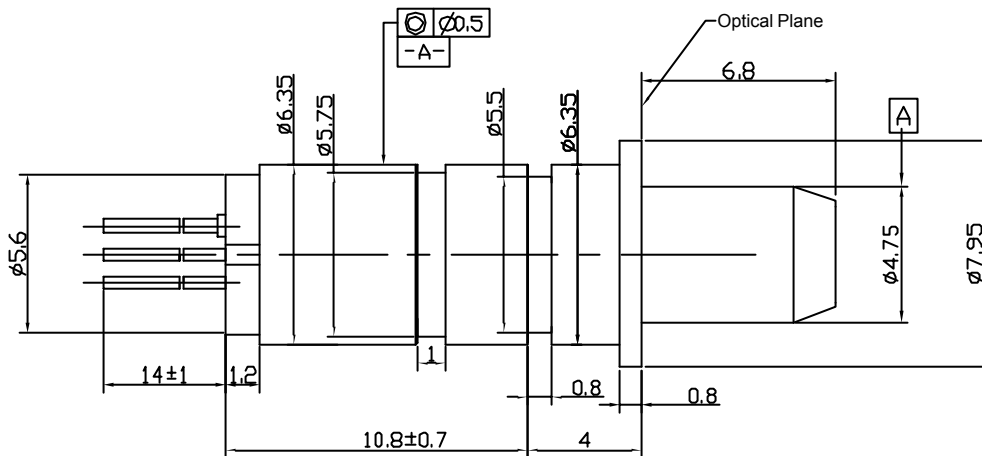


K Type

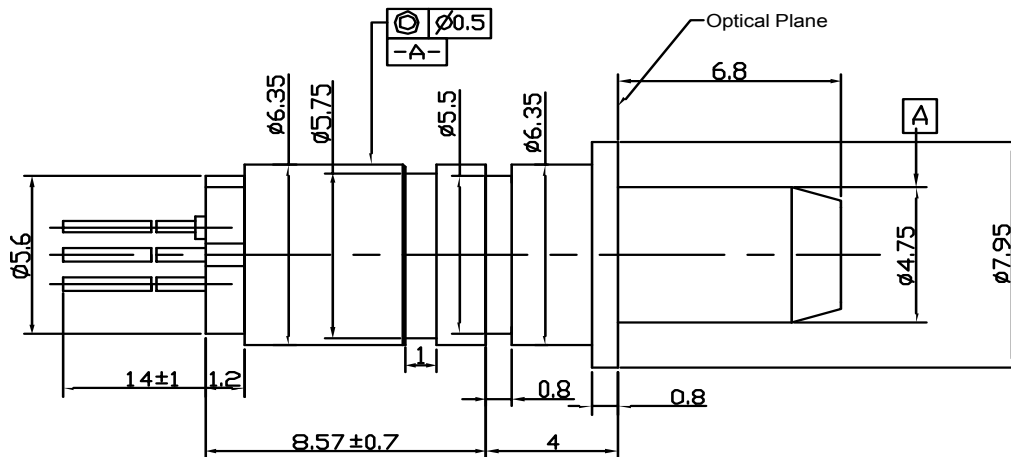
C-13-010-TX-SXXXX

Units in mm

C-13-010-TX-SSC2B

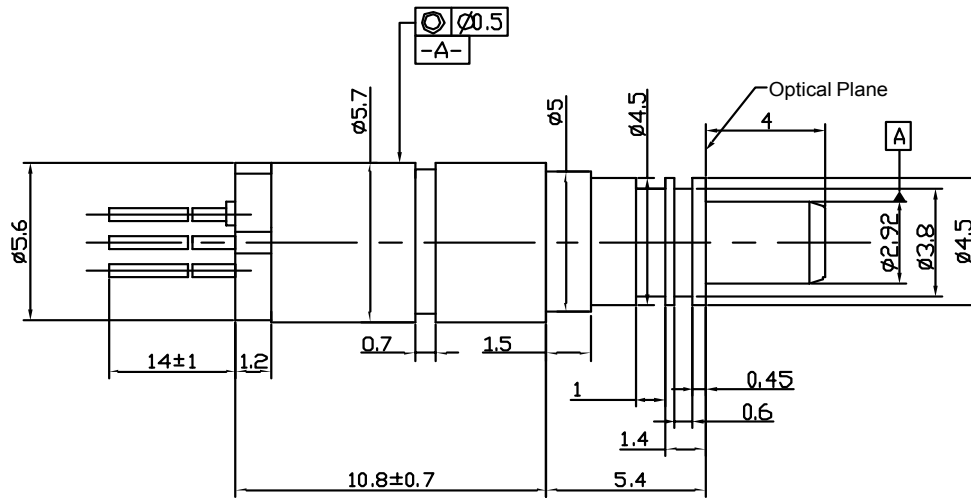


C-13-010-TX-SSCMB



Units in mm

C-13-010-TX-SLCMB
C-13-010-TX-SLC2B



C-13-010-TX-SXXXX

Ordering Information

Available Options:

C-13-010-TX-SXXXX

Note1 : TX = TG / TJ / TK

Note2 : SXXXX = SSCMI / SLCMI / SSC2I / SLC2I / SSCMB / SLCMB / SSC2B / SLC2B

| | | | | | | | | | |
|--------------------|-------------------|---------------|--------------------|-------------|---------------|-------------------|------------------|--------------------------|-------------------------------------|
| C | - 13 - 0 | 10 | - T | X | - S | XX | X | X | |
| <u>Application</u> | <u>Wavelength</u> | <u>Device</u> | <u>Application</u> | <u>Type</u> | <u>Pinout</u> | <u>Fiber type</u> | <u>Connector</u> | <u>Power</u> | <u>Isolator & Fiber stub</u> |
| Communicaton | 13=1310nm | 0=FP | 10=10Gbps | T=TOSA | G J K | S=Single mode | SC LC | M=0.3~1mW 2=1.5~2.5mW | I=Isolator B=Both (I+Fiber stub) |

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

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