

C-13-DFB10-TK-SXCMI (-01)



Features

- Uncooled DFB Laser diode with MQW structure
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Single frequency operation with high SMSR
- 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 | P _O | 2(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 _{FDP} | 2.0 | mA |
| Operating Temperature | T _{opr} | 0 to +70 | °C |
| Storage Temperature | T _{stg} | -40 to +85 | °C |

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

Optical and Electrical Characteristics(T=0 to 70°C unless otherwise noted)

| Parameter | Symbol | Min | Typical | Max | Unit | Test Condition |
|------------------------------------|----------------------------------|------|---------|------|-------|--|
| Threshold Current | I _{th} | - | 10 | 15 | mA | T=25°C |
| Optical Output Power | P _O | 0.3 | - | 1 | mW | I _{th} =40mA, CW, T=25° |
| Operating Current | I _{op} | - | 40 | - | mA | T=25°C |
| Peak Wavelength | λ | 1295 | 1310 | 1325 | nm | CW, T=25°, @ I _{op} |
| Spectral Width (RMS) | Δλ | - | - | 1 | nm | P _O =2mW, CW |
| Side Mode Suppression | S _r | 30 | - | - | dB | CW, @ I _{op} |
| Wavelength Temperature Coefficient | δλ/δT | - | 0.08 | 0.1 | nm/°C | |
| 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 | ΔP _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°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 |

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

Note 2. For 10G Ethernet application

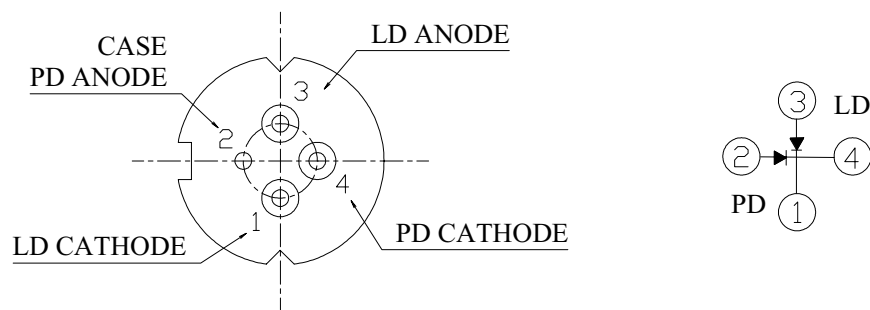
Pin Assignment

Part Number : C-13-DFB10-TK-SSCMI
 C-13-DFB10-TK-SLCMI
 C-13-DFB10-TK-SLCMI-01
 C-13-DFB10-TK-SSCMI-01

LD Pin Assignment

Units in mm.

Bottom view



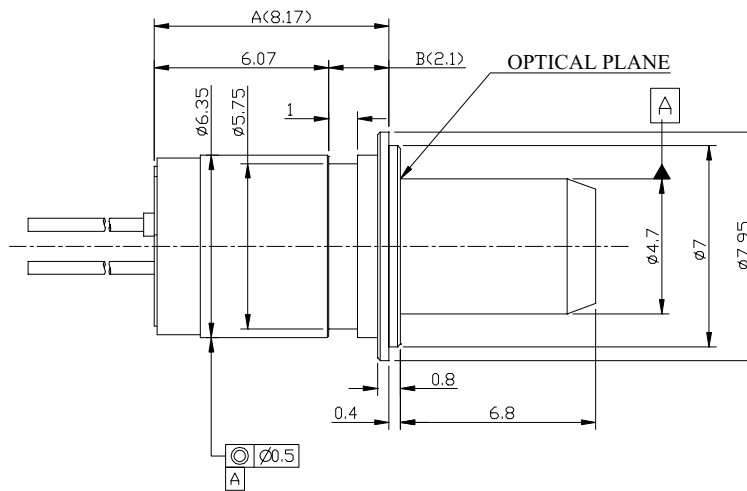
K Type

C-13-DFB10-TK-SXCM1 (-01)

Packaging Dimensions

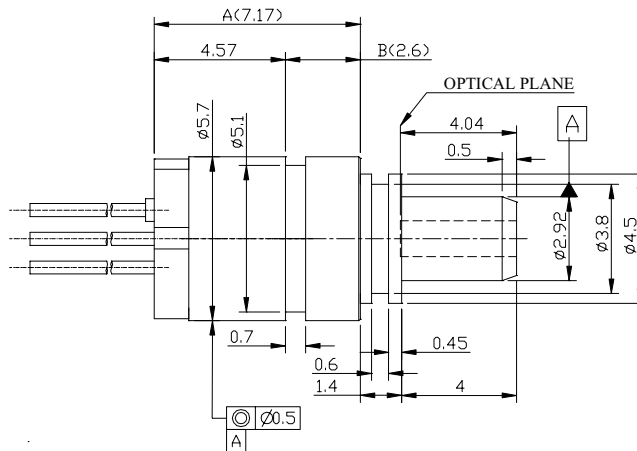
Units in mm

C-13-DFB10-TK-SSCM1



DIMENSION A=8.17±0.4
B=2.1±0.4

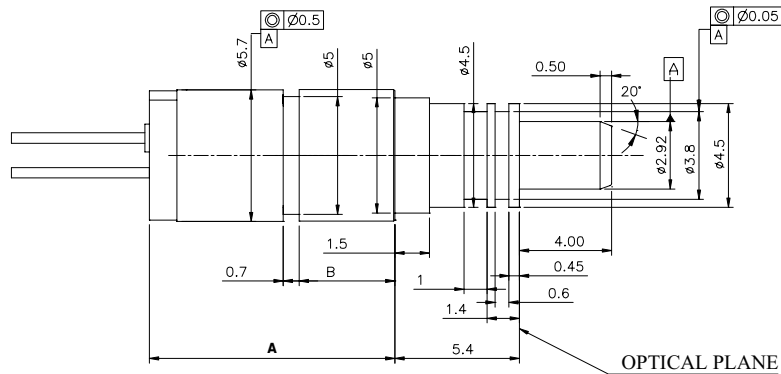
C-13-DFB10-TK-SLCMI



DIMENSION A=7.17±0.4
B=2.6±0.4

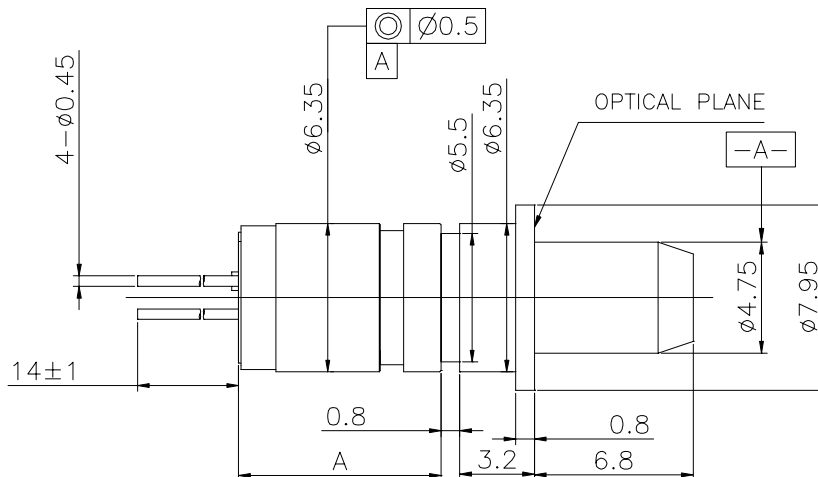
C-13-DFB10-TK-SXCMI (-01)

LC with APC Fiber Stub Type
C-13-DFB10-TK-SLCMI-01



DIMENSION A : 10.2~11.3mm
B : 3.7~4.5 mm

SC with APC Fiber Stub Type
C-13-DFB10-TK-SSCMI-01



DIMENSION A: 8.07~8.97mm

C-13-DFB10-TK-SXCMI (-01)

Ordering Information

Available Options:

- C-13-DFB10-TK-SSCMI
- C-13-DFB10-TK-SLCMI
- C-13-DFB10-TK-SLCMI-01
- C-13-DFB10-TK-SSCMI-01

| | | | | | | | | | | | | | | | | | |
|--------------|----------|------------|----------|------------|-------------|----------|----------|----------|----------|----------|---------------|-----------|----------|-----------|------------|----------|--|
| C | - | 13 | - | DFB | 10 | - | T | - | K | - | S | X | C | M | I | - | 01 |
| Application | | wavelength | | device | application | | type | | pinout | | fiber type | connector | | power | isolator | | Customer |
| Communicator | | 13=1310nm | | DFB=DFB | 10=10Gbps | | T=TOSA | | K | | S=Single mode | SC LC | | M=0.3~1mW | I=isolator | | Customer specifics 01 : with APC 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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