

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 (T_c=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 _{FPD}	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	Sr	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

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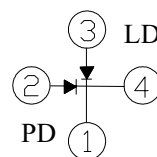
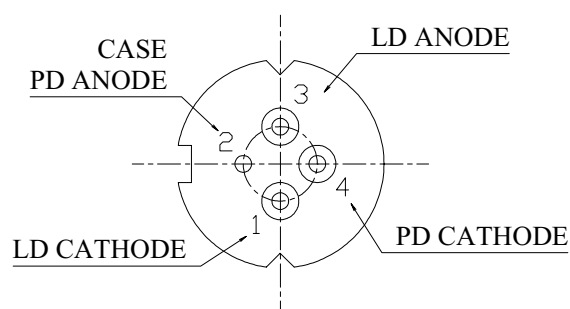
Pin Assignment

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



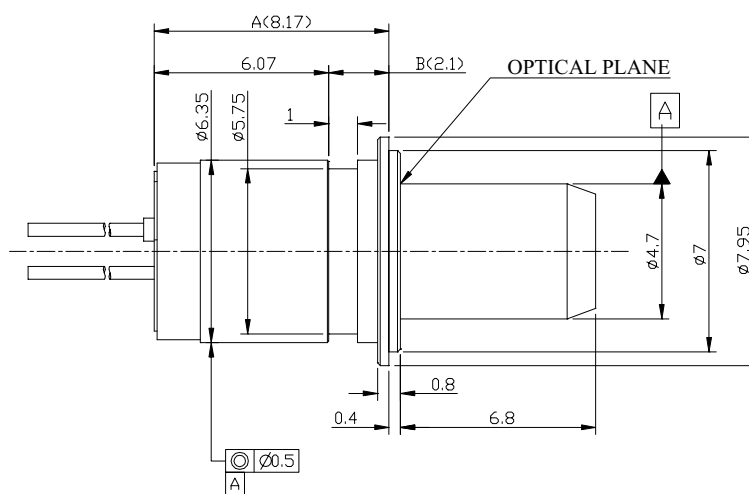
K Type

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Packaging Dimensions

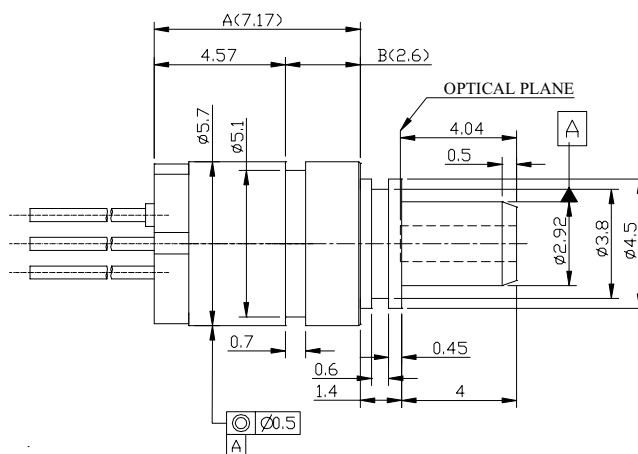
Units in mm

C-13-DFB10-TK-SSCMI



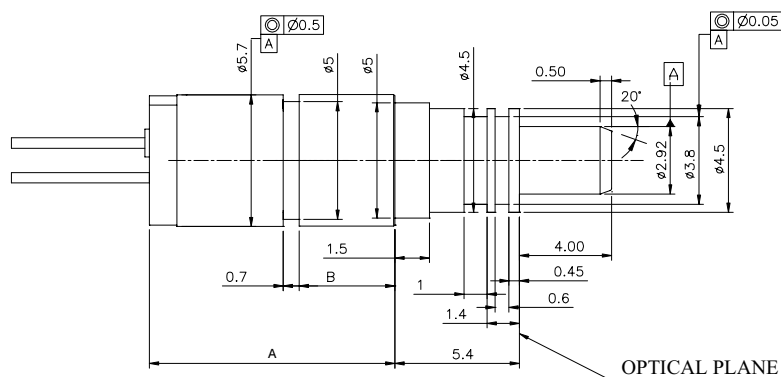
DIMENSION A=8.17±0.4
B=2.1±0.4

C-13-DFB10-TK-SLCMI



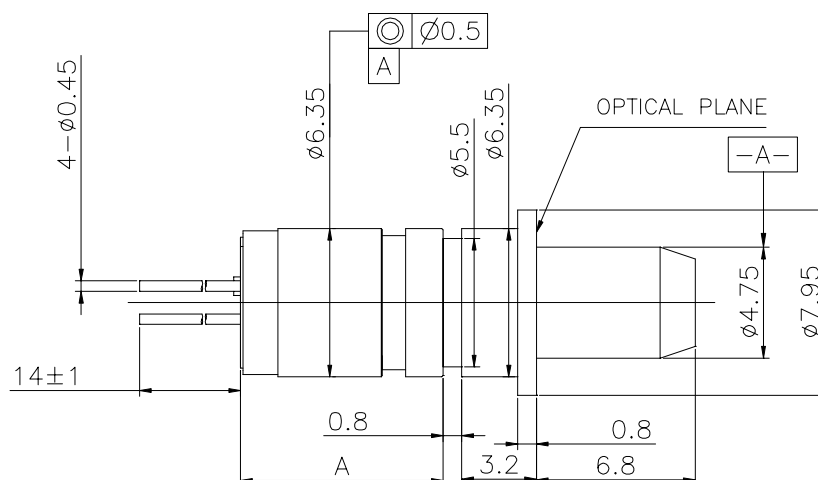
DIMENSION A=7.17±0.4
B=2.6±0.4

**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

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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	XC	M	I	-	01
Application		wavelength		device	application		type	pinout		fiber type	connector	power	isolator		Customer
Communicaton		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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