10Gbps 1310 nm 0 ~ 85°C MQW-DFB Laser Diode Module-TOSA

C-13-DFB10-TX-SXXXX-HT

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 (Middle power) (High power)	P_O	2(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 9/125μm 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 (Middle power) (High power)	P_O	0.3 1.5	-	1 2.5	mW	I_{op}=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	$\Delta P_f / P_f$	-1.5	-	1.5	dB	I_m=constant, CW
PD Monitor Current	I_m	100	-	-	μA	CW, V_{RPD}=5V, T=25°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

*10.3125Gb/s PRBS 2^{31}-1, Er=6.0dB, @ I_{OP} , and T=25°C

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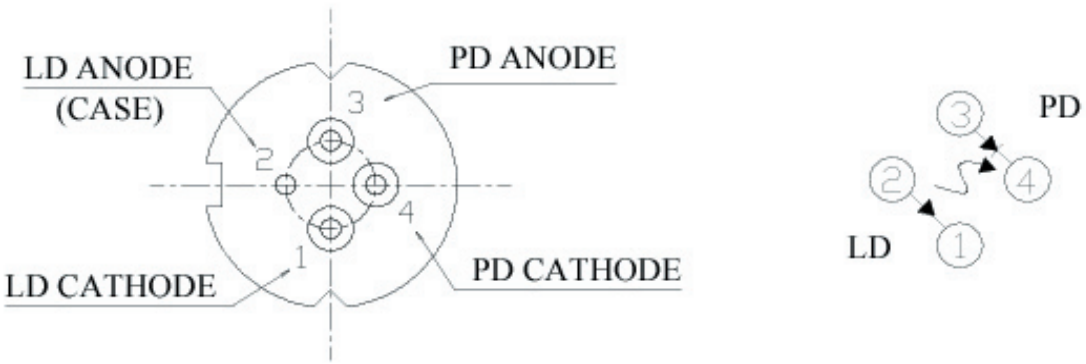
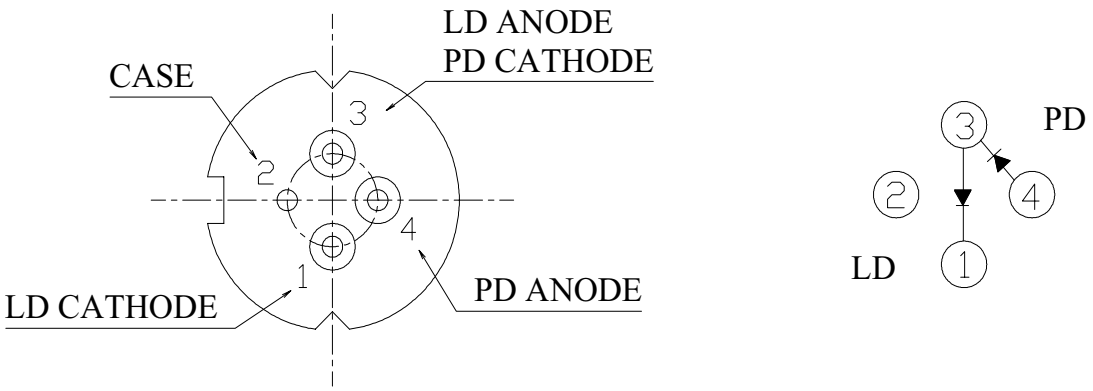
Pin Assignment

Bottom view

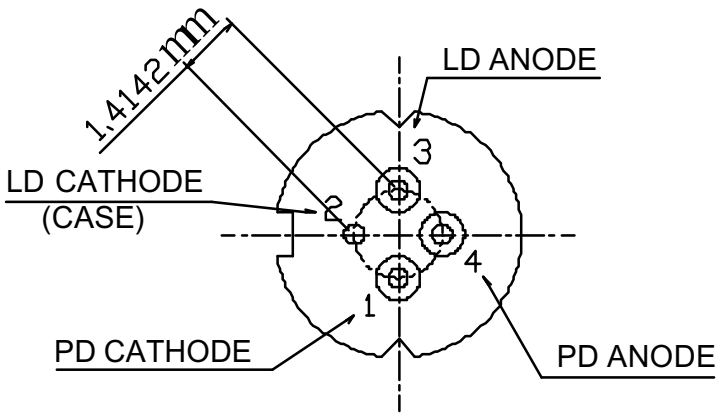


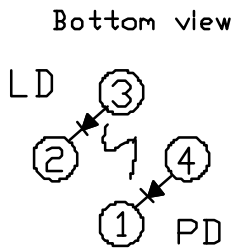
A Type



G Type

Bottom view





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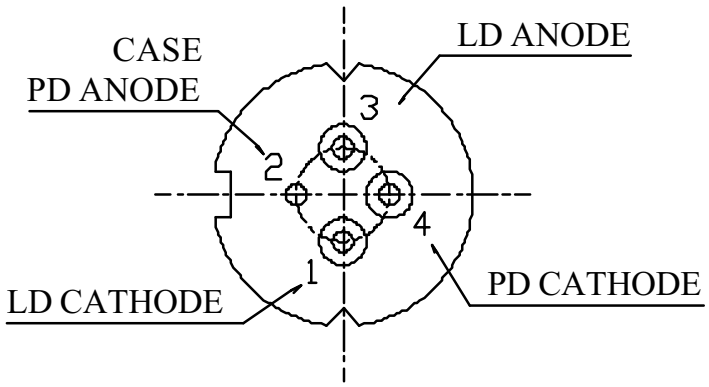
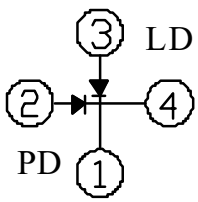


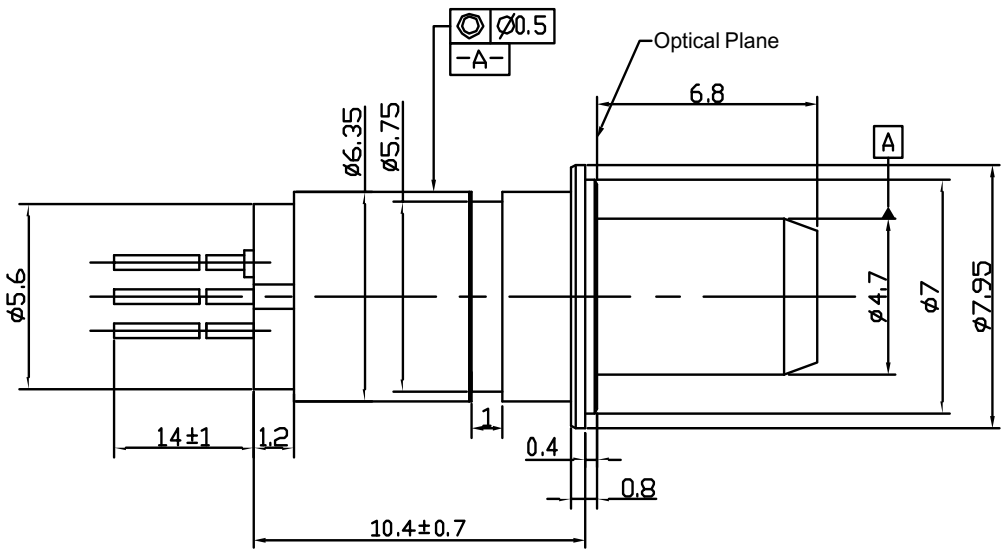


K Type

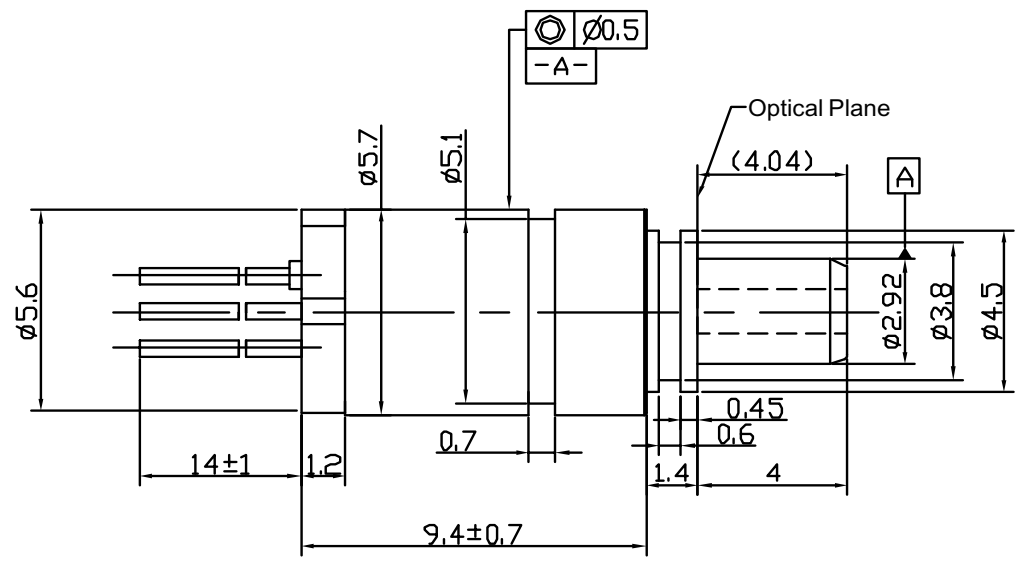
Packaging Dimensions

Units in mm

C-13-DFB10-TX-SSC2I-HT

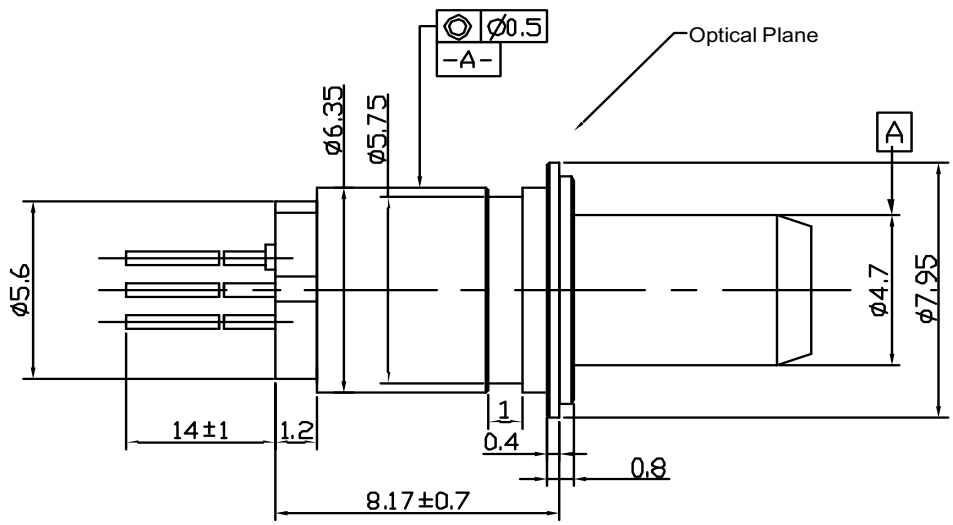


C-13-DFB10-TX-SLC2I-HT



Units in mm

C-13-DFB10-TX-SSCMI-HT



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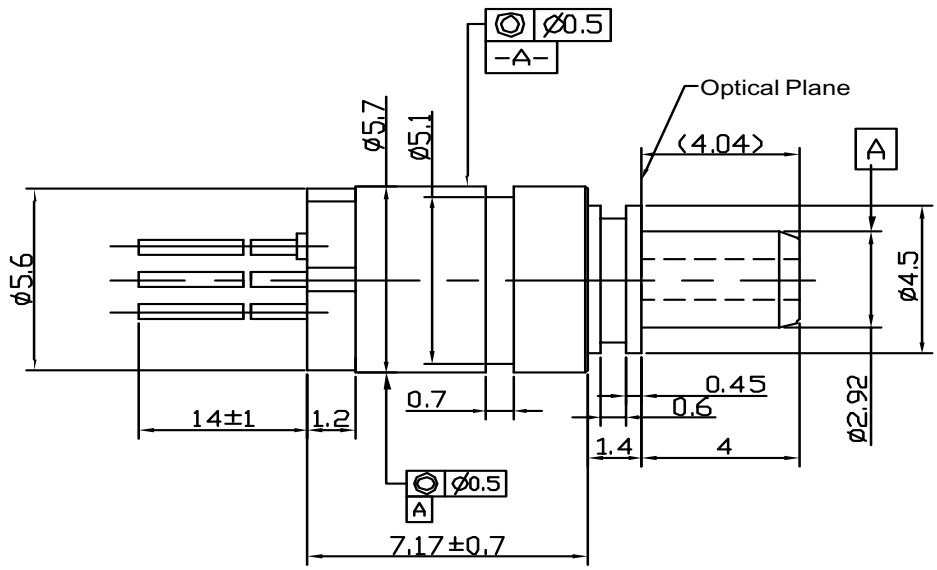
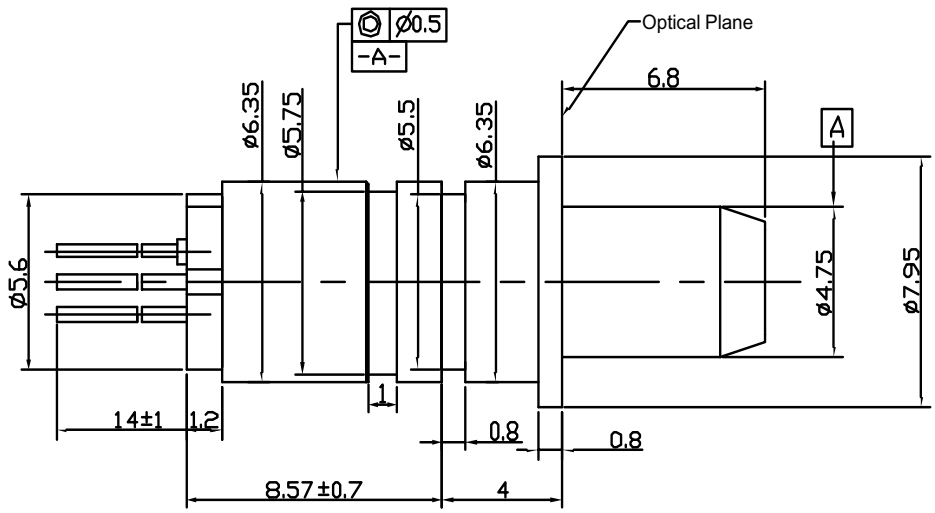


Units in mm

C-13-DFB10-TX-SSCMB-HT



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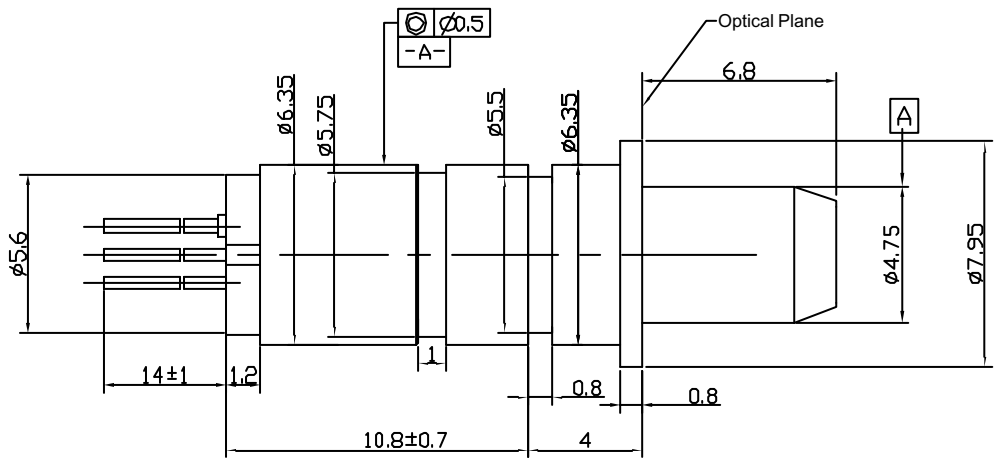
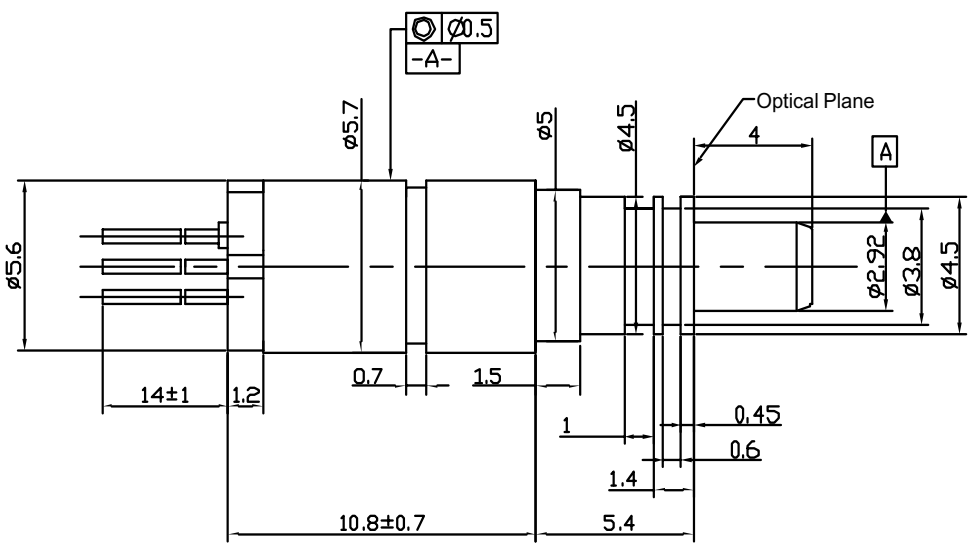


Units in mm

C-13-DFB10-TX-SLCMB-HT
C-13-DFB10-TX-SLC2B-HT



Ordering Information

Available Options:
C-13-DFB10-TX-SXXXX-HT

Note1 : TX = TA / TG / TJ / TK
Note2 : SXXXX = SSCMI / SLCMI / SSC2I / SLC2I / SSCMB / SLCMB / SSC2B / SLC2B

C	-	13	-	DFB	10	-	T	X	-	S	XX	X	X	-	HT
Application		Wavelength		Device	Application		Type	Pinout		Fiber type	Connector	Power	Isolator & Fiber stub		Temperature
Communicaton		13=1310nm		DFB=DFB	10=10Gbps		T=TOSA	A G J K		S=Single mode	SC LC	M=0.3~1mW 2=1.5~2.5mW	I=Isolator B=Both (I+Fiber stub)		HT=0~85 °C

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.