

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 (T_c=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)

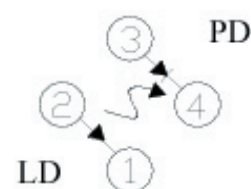
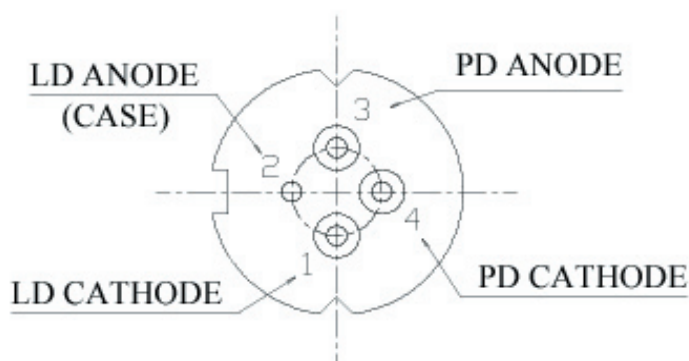
Optical and Electrical Characteristics(T=0 to 70°C unless otherwise noted)

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	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

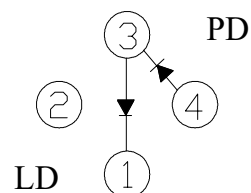
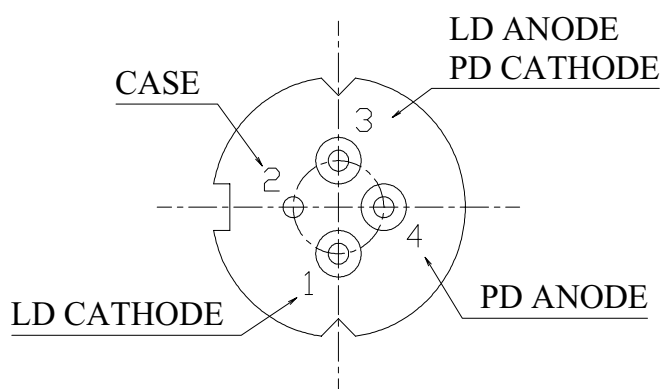
*10.3125Gb/s PRBS 2³¹-1, Er=6.0dB, @ I_{op}, and T=25°C

Pin Assignment

Bottom view

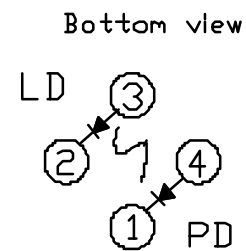
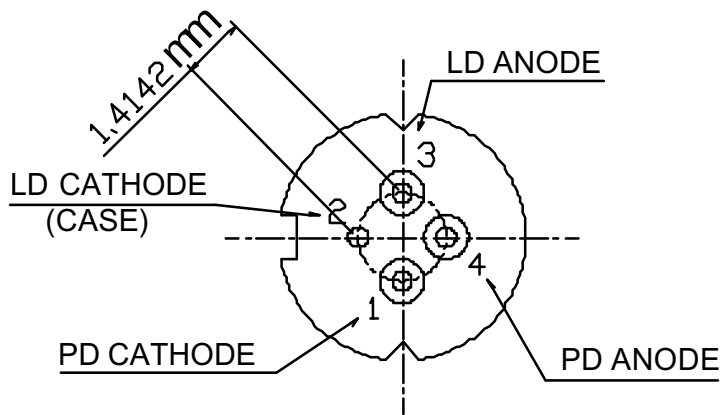


A Type

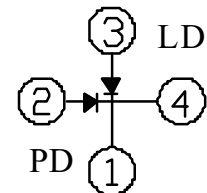
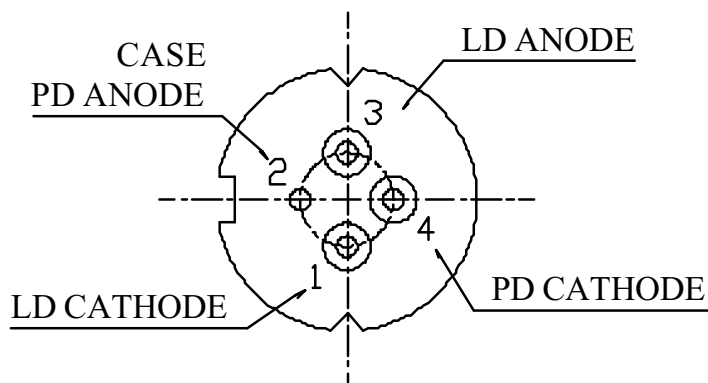


G Type

Bottom view



J Type



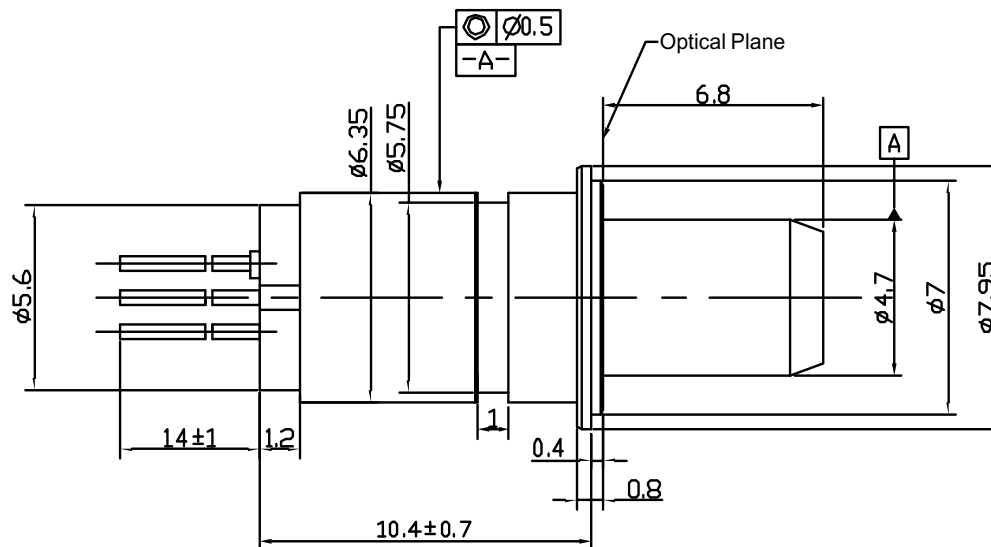
K Type

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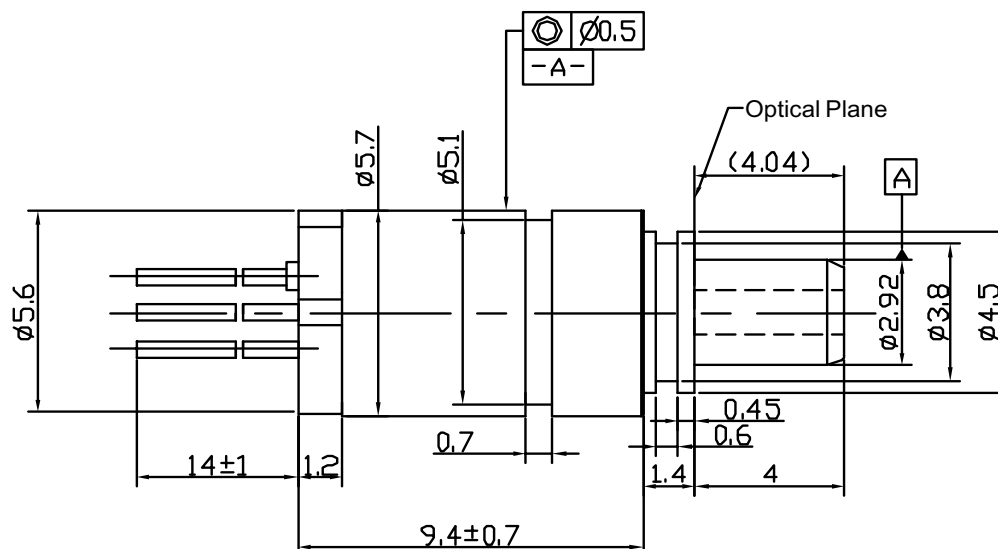
Packaging Dimensions

Units in mm

C-13-DFB10-TX-SSC2I-HT



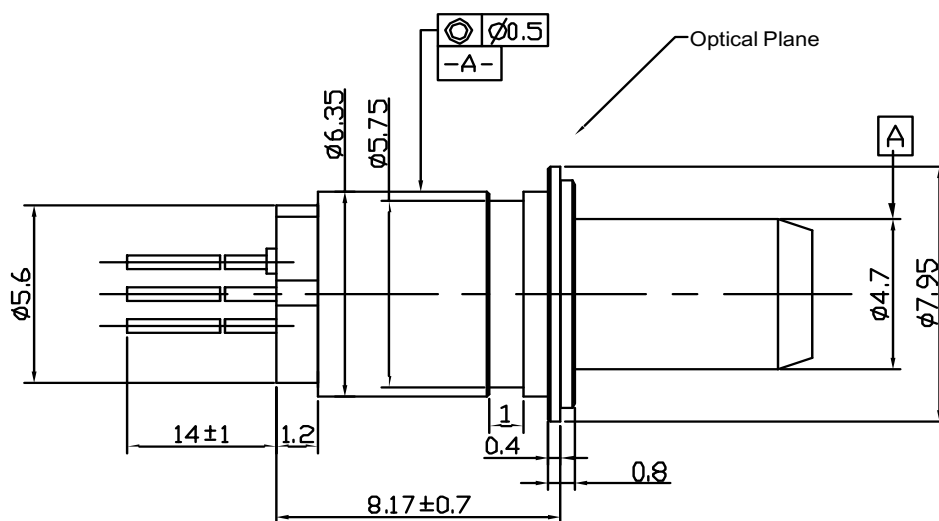
C-13-DFB10-TX-SLC2I-HT



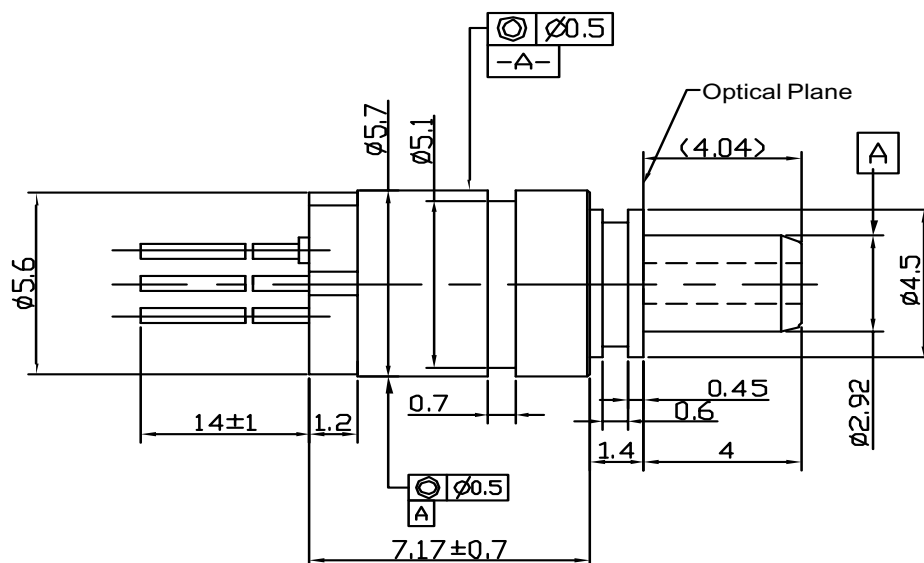
C-13-DFB10-TX-SXXXX-HT

Units in mm

C-13-DFB10-TX-SSCMI-HT



C-13-DFB10-TX-SLCMI-HT



[illegible]

Technical drawing of a mechanical assembly, likely a lens or optical component, showing dimensions and tolerances. The drawing includes a cross-section view of the assembly, with various diameters and lengths specified.

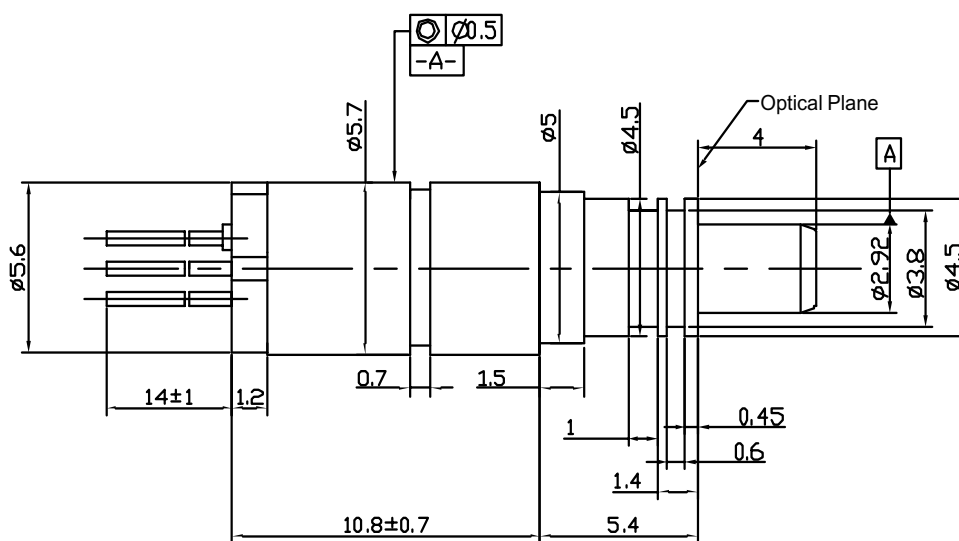
Key dimensions and tolerances shown:

- Overall diameter: $\varnothing 56$
- Length of the first section: 14 ± 1
- Length of the second section: 1.2
- Length of the third section: 10.8 ± 0.7
- Length of the fourth section: 4
- Length of the fifth section: 0.8
- Length of the sixth section: 0.8
- Length of the seventh section: 6.8
- Length of the eighth section: 0.475
- Length of the ninth section: 0.795
- Length of the tenth section: 0.5
- Length of the eleventh section: 0.5
- Length of the twelfth section: 0.5
- Length of the thirteenth section: 0.5
- Length of the fourteenth section: 0.5
- Length of the fifteenth section: 0.5
- Length of the sixteenth section: 0.5
- Length of the seventeenth section: 0.5
- Length of the eighteenth section: 0.5
- Length of the nineteenth section: 0.5
- Length of the twentieth section: 0.5
- Length of the twenty-first section: 0.5
- Length of the twenty-second section: 0.5
- Length of the twenty-third section: 0.5
- Length of the twenty-fourth section: 0.5
- Length of the twenty-fifth section: 0.5
- Length of the twenty-sixth section: 0.5
- Length of the twenty-seventh section: 0.5
- Length of the twenty-eighth section: 0.5
- Length of the twenty-ninth section: 0.5
- Length of the thirtieth section: 0.5
- Length of the thirty-first section: 0.5
- Length of the thirty-second section: 0.5
- Length of the thirty-third section: 0.5
- Length of the thirty-fourth section: 0.5
- Length of the thirty-fifth section: 0.5
- Length of the thirty-sixth section: 0.5
- Length of the thirty-seventh section: 0.5
- Length of the thirty-eighth section: 0.5
- Length of the thirty-ninth section: 0.5
- Length of the fortieth section: 0.5
- Length of the forty-first section: 0.5
- Length of the forty-second section: 0.5
- Length of the forty-third section: 0.5
- Length of the forty-fourth section: 0.5
- Length of the forty-fifth section: 0.5
- Length of the forty-sixth section: 0.5
- Length of the forty-seventh section: 0.5
- Length of the forty-eighth section: 0.5
- Length of the forty-ninth section: 0.5
- Length of the fiftieth section: 0.5

C-13-DFB10-TX-SXXXX-HT

Units in mm

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



C-13-DFB10-TX-SXXXX-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
Communication	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.

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