



1270nm~1610nm Series 18 Channels CWDM DFB Laser Diode TOSA

Model No. TX₁D-X₂X₃X₄-X₅X₆X₇

Read Model No.	TX ₁ D-X ₂ X ₃ X ₄ -X ₅ X ₆ X ₇
TX ₁ D = DFB Laser	1270nm (X ₁ =27), 1290nm (X ₁ =29), 1310nm (X ₁ =31), 1330nm (X ₁ =33), 1350nm (X ₁ =35), 1370nm (X ₁ =37), 1390nm (X ₁ =39), 1410nm (X ₁ =41), 1430nm (X ₁ =43), 1450nm (X ₁ =45), 1470nm (X ₁ =47), 1490nm (X ₁ =49), 1510nm (X ₁ =51), 1530nm (X ₁ =53), 1550nm (X ₁ =55), 1570nm (X ₁ =57), 1590nm (X ₁ =59), 1610nm (X ₁ =61)
X ₂ = Package	Pigtailed with 9/125um SM fiber (X ₂ =P); Receptacle (X ₂ =R)
X ₃ = Connector	None (X ₃ =NO); FC/PC (X ₃ =FC), SC/PC (X ₃ =SC), ST/PC (X ₃ =ST), LC/PC (X ₃ =LC), FC/APC (X ₃ =FA), SC/APC (X ₃ =CA), ST/APC (X ₃ =TA)
X ₄ = Output power	>0.5mW (X ₄ =L), >1mW (X ₄ =1), >2mW (X ₄ =2)
X ₅ = Pinout configuration	C pinout (X ₅ =C)
X ₆ = Mount	For Receptacle: (X ₆ =R) For Pigtail: Flangeless (X ₆ =0), Horizontal (X ₆ =1)
X ₇ = Isolator	No (X ₇ =0); Yes (X ₇ = I)

Features

- Uncooled 1270nm~1610nm MQW-DFB laser diode (LD)
- High temperature operation -20°C to +85°C without active cooling
- Data rate: 155Mbps up to 2.5Gbps
- Hermetically sealed active component
- Optional with single stage isolator
- Built-in high performance, high speed InGaAs monitor PIN photodiode (PD)



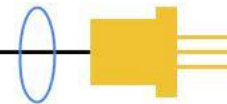
Packaging

- Single-mode Fiber pigtailed with optional FC/ST/SC/LC connector
- Packaged in FC or ST Receptacle with fiber stub



Applications

- Design for CWDM fiber optic networks
- ATM/SONET OC-3~OC-24
- SDH STM1~STM-8
- Stable emitting source at specific wavelength



Specifications

Absolute Maximum Ratings				
Parameters	Symbol	Value	Unit	Conditions
Storage temperature	Tstg	-40 to +85	°C	
Operating case temperature	Top	-20 to +85	°C	
Peak optical output power	Po	5	mW	
Forward current (LD)	I _{FLD}	100	mA	
Reverse voltage (LD)	V _{RLD}	2	V	
Reverse current (PD)	I _{RPD}	5	mA	
Reverse voltage (PD)	V _{RPD}	15	V	
Soldering temperature	Stemp	260	°C	10 seconds

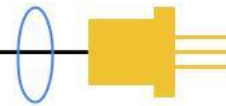
Electro-Optical Characteristics (CW @ T _c = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Central wavelength	λ_c	λ_p-3	λ_p	λ_p+3	nm	CW, Pf
Side mode suppression ratio	SMSR	30	40	-	dB	Pf
Spectral width	$\Delta\lambda$	-	0.2	1	nm	Pf
Threshold current	I _{th}	-	10	15	mA	CW
Fiber output power	Pf	0.5			mW	CW, I _f =I _{th} +20mA
		1.0				
		2.0				
Operating voltage	V _{op}	-	1.1	1.5	V	Pf
Rise time / Fall time	t _r /t _f	-	0.1	0.2	nsec	I _b = I _{th} , 20%~80%
Monitor current	I _m	100	-	1000	uA	Pf, V _{rp} =5V
Monitor dark current	I _d	-	0.1	100	nA	V _{rp} =5V
Monitor capacitance	C	-	10	20	pF	V _{rp} =5V, f=1MHz
Tracking error*	$\Delta Pf / Pf$	-	± 1.0	± 1.5	dB	APC, T _c =-40~+85°C

Note: λ_p = 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610

*I_m=constant @ Pf, T_c=25 °C

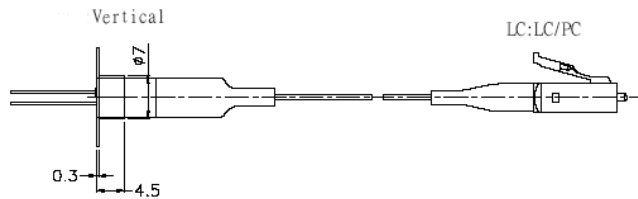
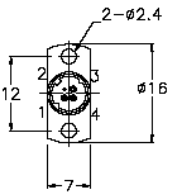
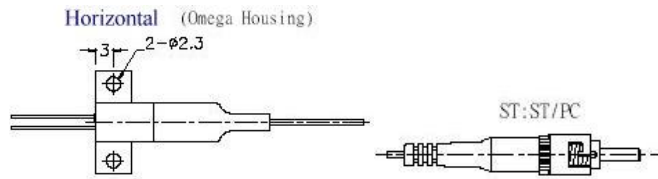
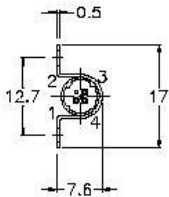
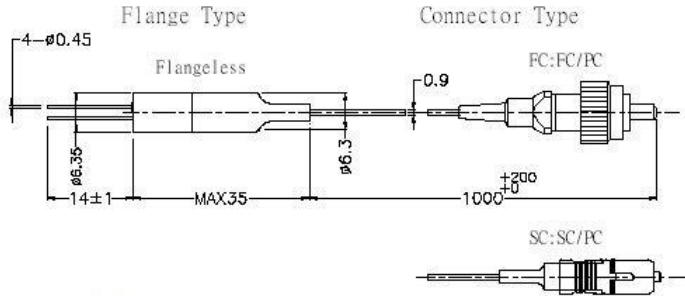
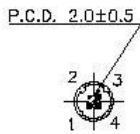
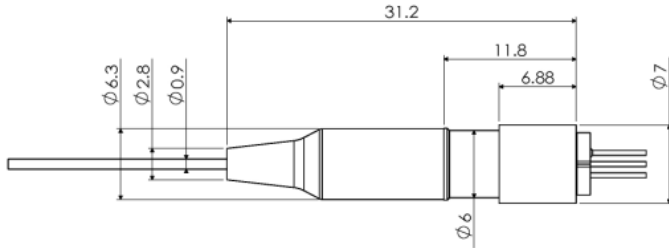
Fiber Pigtail Specifications					
Parameters	Symbol	Min.	Typ.	Max.	Unit
Fiber type		Single Mode Fiber (Flame Retardant Hytrel Coating)			
Cladding diameter	D _{cl}	122	125	128	um
Mode field diameter	D _{mf}	-	10	-	um
Coating diameter	D _{bc}	-	0.9	1	mm
Pigtail length*	L	0.9	1.0	1.1	m
Bending radius	R _b	30	-	-	mm
Connector		TBD			

*From the ferrule-end to the bottom of TO-header.

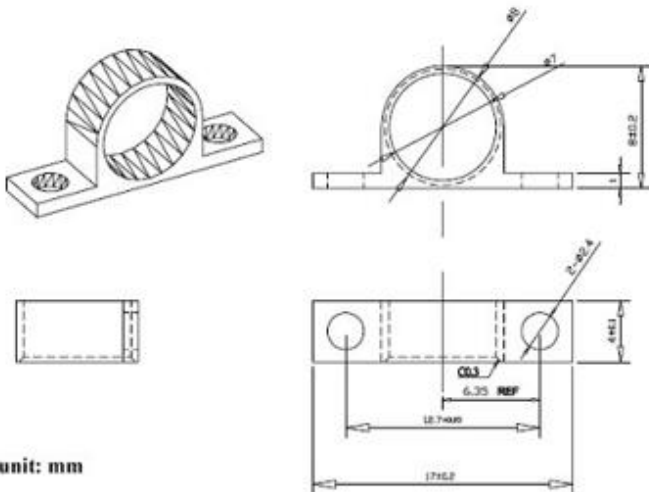


Outline Dimensions (unit: mm)

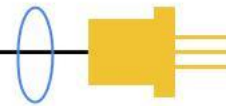
Pigtail:



Horizontal Mount:

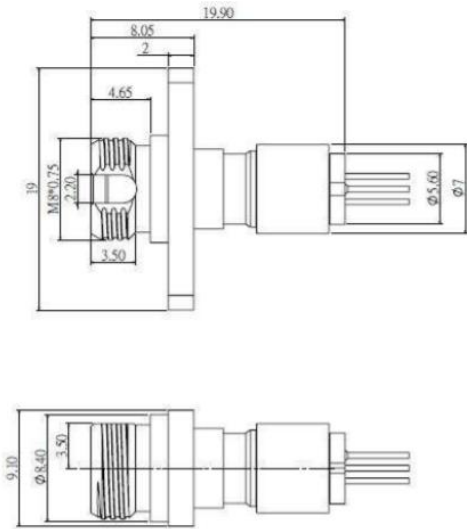


unit: mm

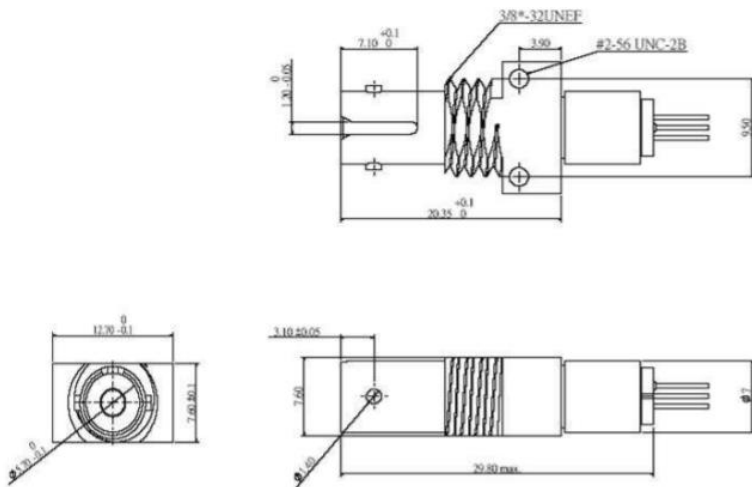


Receptacle:

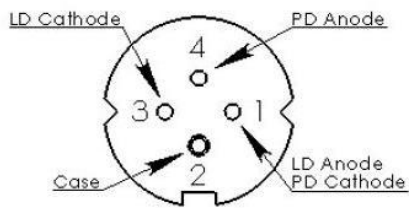
FC Receptacle



ST Receptacle



Pin Assignment



Type C

Pin Number	Type C
1	LD Anode, PD Cathode
2	Case
3	LD Cathode
4	PD Cathode

Note: Specifications are subject to change without notice.

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