

## C-13-DFBA-PX-SXXXI/XXX-X



## Features

- Laser diode with multi-quantum-well structure
- Un-cooled operation at -20 to +85°C
- Built-in InGaAs monitor photodiode
- Hermetically sealed active component
- Complies with Telcordia Technologies GR-468-CORE
- Single frequency operation with high SMSR
- Fiber pigtailed package with optional FC/ST/SC/MU/LC connector
- Design for Analog fiber-optics application

Absolute Maximum Rating (T<sub>c</sub>=25°C)

Parameter	Symbol	Value	Unit
Fiber Output Power H&2	P <sub>f</sub>	2.5(H)/4(2)	mW
Reverse Voltage	V <sub>RLD</sub>	2	V
PD Reverse Voltage	V <sub>RPD</sub>	20	V
PD Forward Current	I <sub>FDP</sub>	2.0	mA
Operating Temperature	T <sub>opr</sub>	-20 to +85	°C
Storage Temperature	T <sub>stg</sub>	-40 to +85	°C

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

## Optical and Electrical Characteristics (T=25°C)

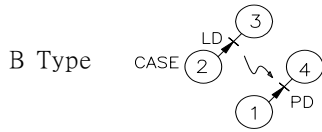
Parameter	Symbol	Min	Typical	Max	Unit	Test Condition
Threshold Current	I <sub>th</sub>	-	10	20	mA	CW
Operating Current	I <sub>op</sub>	-	20	40	mA	CW, P <sub>f</sub> =P <sub>f</sub> (Min)
Optical Output Power	P <sub>f</sub>	1	-	2	mW	CW, I <sub>th</sub> +20mA, kink free
H 2		2	-	-		
Operating Voltage	V <sub>F</sub>	-	1.2	1.8	V	CW, P <sub>f</sub> =P <sub>f</sub> (Min)
Peak Wavelength	λ	1280	1310	1335	nm	CW, P <sub>f</sub> =P <sub>f</sub> (Min), RMS(-20dB) TC=-20~85°C
Side mode Suppression Ratio	S <sub>r</sub>	30	40	-	dB	CW, P <sub>f</sub> =P <sub>f</sub> (Min), -20 to 85°C
Slope Efficiency	Se	0.05	-	0.1	mW/mA	CW, P <sub>f</sub> =P <sub>f</sub> (Min)
H 2		0.1	-	-		
Optical Isolation	OI	45 30	- -	- -	dB	-20<T <sub>c</sub> <85°C
Rise Time/Fall Time	t <sub>r</sub> /t <sub>f</sub>	-	-	0.5	ns	I <sub>bias</sub> =I <sub>th</sub> , 10% to 90%
Relative Intensity Noise	RIN	-	-150	-145	dB/Hz	CW
Second Order Distortion	SSO	-	-	-40	dBc	Note 1
Third Order Distortion	STO	-	-	-50	dBc	Note 1
Monitor Current	I <sub>m</sub>	100	-	-	μA	CW, P <sub>f</sub> =P <sub>f</sub> (Min), V <sub>RPD</sub> =2V
Monitor Dark Current	I <sub>DARK</sub>	-	-	1.0	μA	V <sub>RPD</sub> =5V
Photodiode Capacitance	C	-	6	15	pF	V <sub>RPD</sub> =5V, f=1MHz
Tracking Error	ΔP <sub>f</sub> /P <sub>f</sub>	-1.5	-	1.5	dB	APC, -20 to +85°C

Note1. The laser is modulated with two-carrier tones (f<sub>1</sub>=13MHz, f<sub>2</sub>=19MHz) at OMI=15% per carrier tone

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Pin Assignment

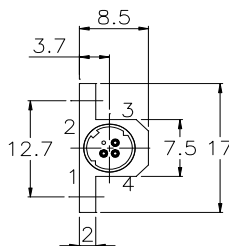
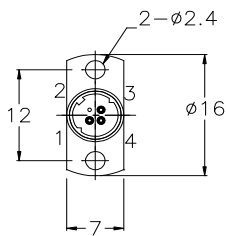
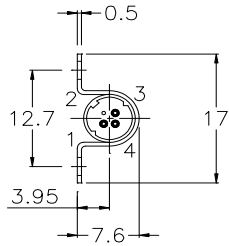
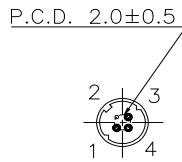
Units in mm.



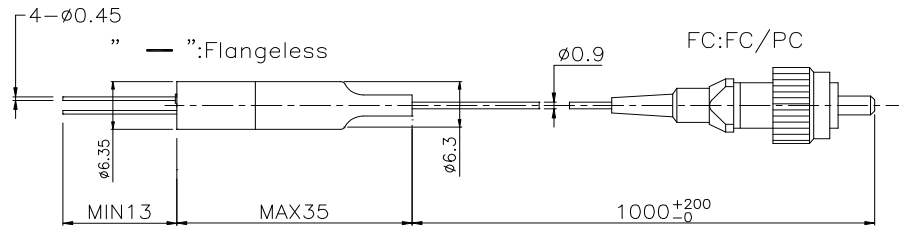
- Pin 1 : Monitor Diode Anode
- Pin 2 : Laser Anode and Case Gnd
- Pin 3 : Laser Cathode
- Pin 4 : Monitor Diode Cathode



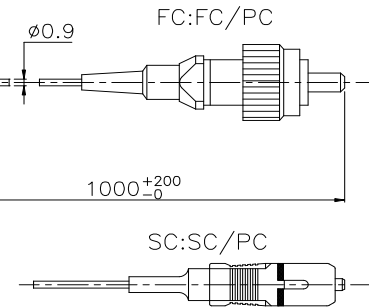
- Pin 1 : Laser Anode and Monitor Diode Cathode
- Pin 2 : Case Gnd
- Pin 3 : Laser Cathode
- Pin 4 : Monitor Diode Anode



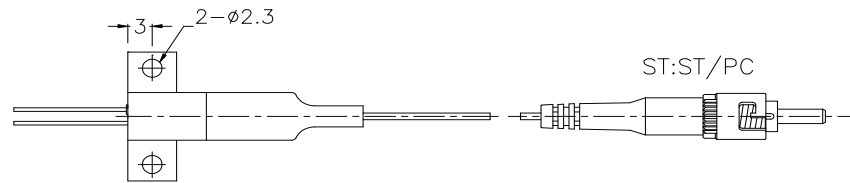
Flange Type



Connector Type

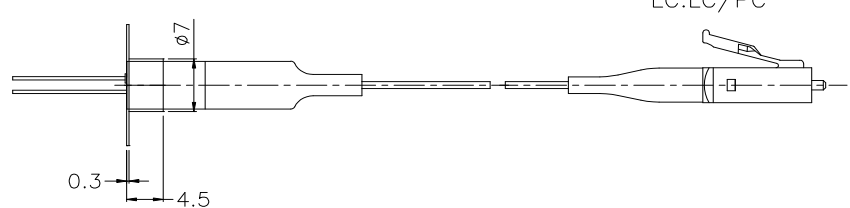


"O":Horizontal (Omega Housing)

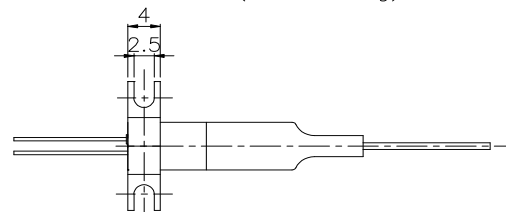


MU:MUJ/PC

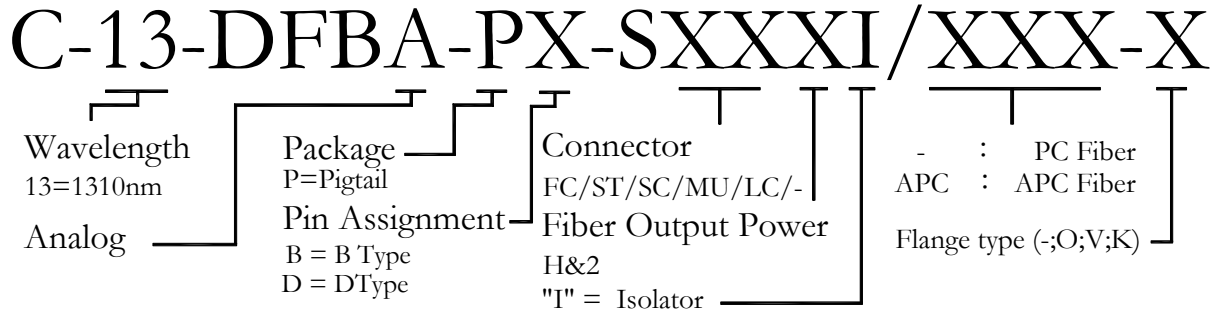
"V":Vertical



"K":Horizontal (KX Housing)



Ordering Information



Warnings

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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