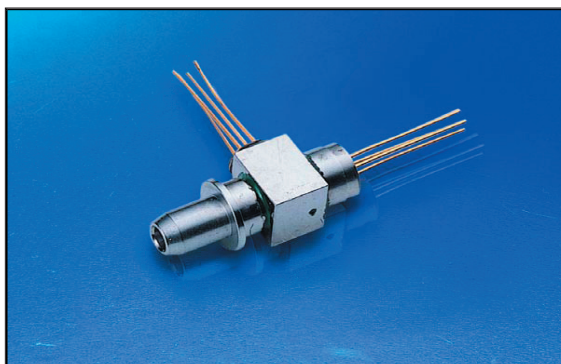


C-14/13-D06-BD-SXXL-XX

**Features**

- Single fiber bi-directional operation
- Laser diode with multi-quantum- well structure
- Low threshold current
- InGaAs/InP PIN Photodiode with trans-impedance amplifier
- High sensitivity with AGC*
- Differential ended output
- Single Supply Voltage +3.3V
- Integrated WDM coupler
- Un-cooled operation from 0°C to +70°C
- Hermetically sealed active component

Packaging

- LC/SC BOSA

Application

- Design for fiber optic networks
- RoHS Compliant available

Absolute Maximum Rating (Tc=25°C)

Parameter	Symbol	Value	Unit
Fiber Output Power	P_f	0.6	mW
LD Reverse Voltage	V_{RLD}	2	V
PIN-TIA Voltage	V_{CC}	4.5	V
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(Tc=25°C)

Parameter	Symbol	Min	Typical	Max	Unit	Test Condition
Laser Diode						
Optical Output Power	P_f	0.3	-	0.8	mW	CW, $I_{th} + 25mA$, kink free
Peak Wavelength	λ	1480	1490	1500	nm	CW, $P_f = P_f(\text{Min})$
Side mode Suppression	S_r	30	35	-	dB	CW, $P_f = P_f(\text{Min})$, 0~+70°C
Threshold Current	I_{th}	-	-	20	mA	CW
Forward Voltage	V_f	-	1.2	1.5	V	CW, $P_f = P_f(\text{Min})$
Rise/Fall Time	t_r / t_f	-	-	0.3	ns	$I_{bias} = I_{th}$, 10%~90%
Monitor Diode						
Monitor Current	I_m	100	-	-	μA	CW, $P_f = P_f(\text{Min})$, $V_{RPD} = 2V$
Dark Current	I_{DARK}	-	-	0.1	μA	$V_{RPD} = 5V$
Capacitance	C_t	-	6	15	pF	$V_{RPD} = 5V$, $f = 1MHz$
Module						
Tracking Error	$\Delta P_f / P_f$	-1.5	-	1.5	dB	APC, 0~+70°C
Optical Cross talk	CRT	< -45			dB	

Note:

- 1.Pin assignment can be customized.
- 2.Specifications subject to change without notice.

Detector $\lambda=1100\sim1430\text{nm}$ **DC Electrical Characteristics(Tc=25°C)**

Parameter	Symbol	Min	Typical	Max	Unit	Test Condition
Power Supply	V _{CC}	3.0	3.3	3.6	V	
Differential Output Voltage	V _d	185	250	415	mV	
Supply Current (RL=50Ω)	I _{CC}	-	26	50	mA	

AC/Optical and Electrical Characteristics(Tc=25°C)

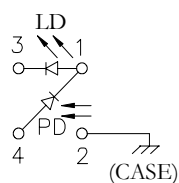
Parameter	Symbol	Min	Typical	Max	Unit	Test Condition
Detection Range		1100	1310	1430	nm	-
Gain @ 10 Mbps Differential	G	1.92	2.5	3.4	V/mW	Measure differentially with 30uAp-p signal
Bandwidth	BW	700	920	1100	MHz	-
Saturation Power	Psat	-3	-	-	dBm	BER<10 ⁻¹² @1.25Gbps PRBS 2 ⁷ -1,Er=10dB
Sensitivity	Sens.	-	-26	-23	dBm	BER<10 ⁻¹² @1.25Gbps PRBS 2 ⁷ -1,Er=10dB
Output Resistance	Rout	48	50	62	ohm	-

Pin Assignment

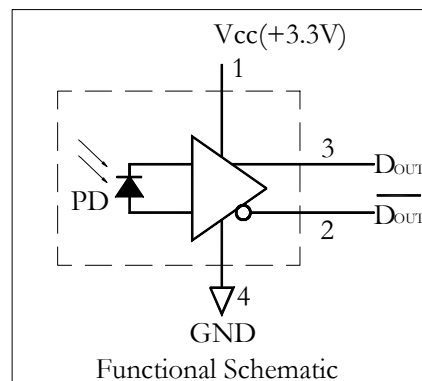
Pin Assignment

LD Pin Assignment

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



PIN-TIA Pin Assignment

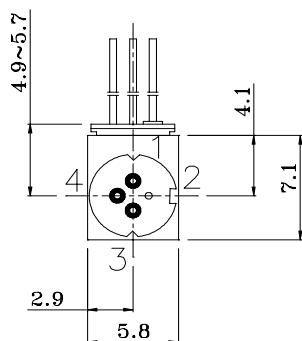
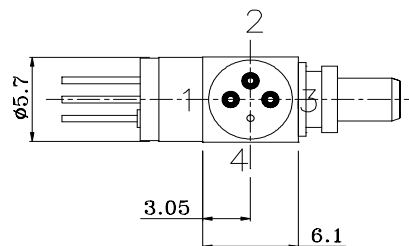


Outline Dimensions

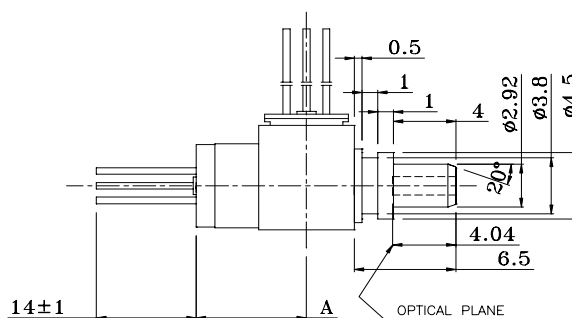
Units in mm.

Part Number: C-14/13-D06-BD-SLCL-XX

Top view



Left side view



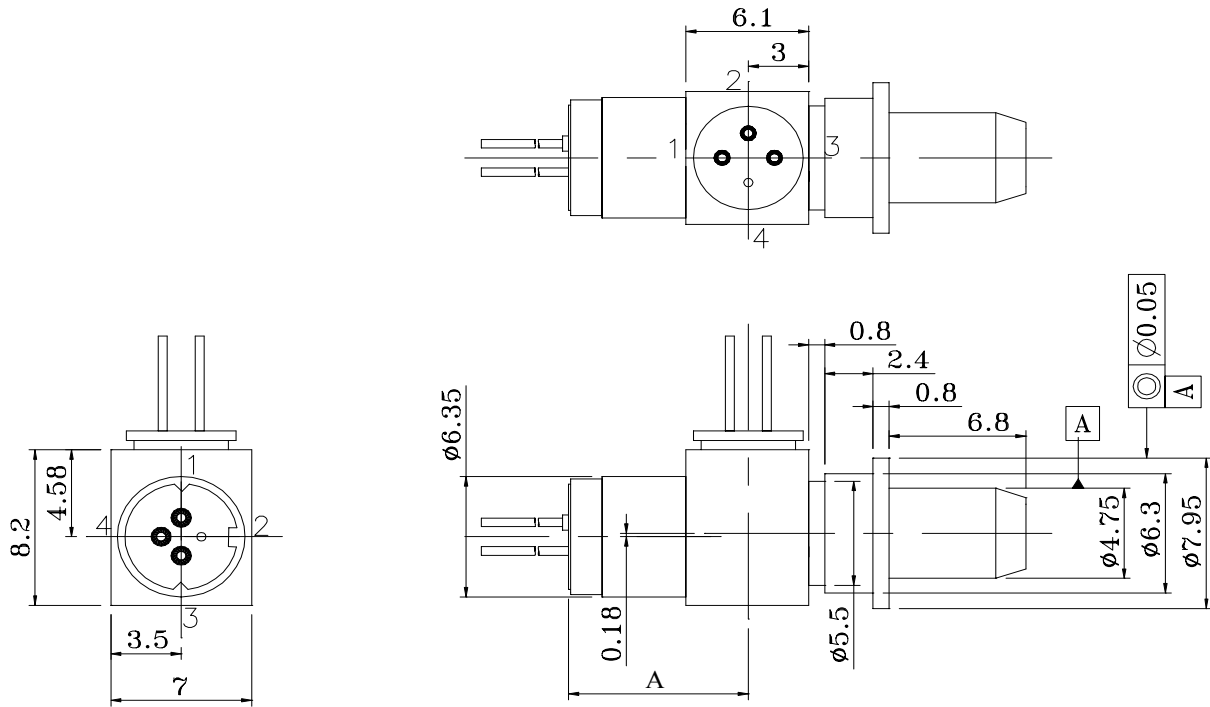
Front view

DIMENSION : A:TBD

Outline Demensions

Units in mm.

Part Number: C-14/13-D06-BD-SSCL-XX



DIMENSION A: 7.2~7.8mm

Ordering Information

C-14/13-D06-BD-SXXL-XX

1490nm Transmitter
1310nm Receiver

06: 1250Mb/s PIN-TIA+3.3V

Package
B=BOSA

Pin Assignment
D = D Type

Connector
SC/LC

Fiber Application
S= 9/125 μ m

Fiber Output Power
L

RoHS Compliant
-/G5/GR

Blank = RoHS non-compliant product
G5 = RoHS 5/6-compliant product (lead exemption)
GR = Full RoHS compliant product (no exemption)

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.

Legal Notice

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