

## 155Mb/s 1310/1550nm BOSA

### *PLDM583 Series*

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#### Features

- *Integrated WDM for single fiber bi-directional transmission*
- *1310/1550 nm direct modulation with uncooled MQW-FP-LD*
- *Low optical crosstalk*
- *Low dark current Low capacitance InGaAs PIN photodiode with TIA*
- *Excellent sensitivity and overload characteristics*

#### Application

- *FTTx network*
- *SONET/SDH /ATM equipment interconnect*
- *Point to point link with a single fiber*
- *Analog RF link with a single fiber*

#### Standard

- *SONET/SDH*

## Description

The PLDM583 assembly can be used in the 155Mb/s data rate network communication. A transmitter, receiver and a piece of WDM filter build up it. The transmitter section uses the 1310/1550nm continue-mode laser, the receive section uses 1550/1310nm receiver with TIA.

## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	T <sub>s</sub>	°C	-40	+85
Laser Diode Reverse Voltage	VRL	V	-	2
Laser Diode Forward Current	IFL	mA	-	100
Monitor Diode Reverse Voltage	VRD	V	-	15
Monitor Diode Forward Current	IFD	mA	-	2
Power Supply Voltage	V <sub>cc</sub>	V	-	3.8
Lead Solder Temperature	-	°C	-	260
Lead Soldering Time	-	s	-	10

## Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Case Operating Temperature Range	T <sub>c</sub>	°C	0	25	+70
Power Supply Voltage	V <sub>cc</sub>	V	-	3.3	3.8
Relative Humidity	RH	%	-	75	95

## Specifications (T=25°C, unless otherwise noted)

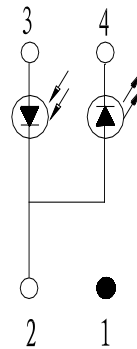
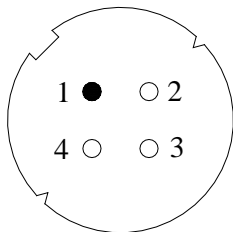
Parameter	Symbol	Unit	Min	Typ	Max	Test condition
<b>Transmitter: LD &amp; MPD Characteristics</b>						
Threshold Current	I <sub>th</sub>	mA	-	8	20	CW, 25 °C
			-	-	50	CW, 70 °C
Output Power	p <sub>f</sub>	mW	0.1	-	0.6	CW, @I <sub>th</sub> +14mA
Forward Voltage	VFL	V	-	1.1	1.5	CW, @I <sub>th</sub> +14mA, 25 °C
Peak Wavelength	λ <sub>PA</sub>	nm	1280	1310	1340	CW
	λ <sub>PB</sub>		1515	1530	1550	
Spectrum Width	Δλ <sub>FP</sub>	nm	-	-	3	RMS, CW, @I <sub>th</sub> +14mA
Monitor-PD Current	I <sub>m</sub>	μA	80	-	1000	CW, @I <sub>th</sub> +14mA
Rise and Fall Time	t <sub>r</sub> , t <sub>f</sub>	ns	-	0.3	0.7	10%-90%
Monitor-PD Dark Current	I <sub>dm</sub>	nA	-	-	10	-5V, 25 °C
Monitor-PD Capacitance	C <sub>mt</sub>	pF	-	-	1	-5V, 25 °C
<b>Receiver: PIN-TIA Characteristics</b>						
Detection Range	λ <sub>PB</sub>	nm	1270	1310	1360	

	$\lambda$ PA		1500	1550	1580	
Optical Sensitivity	S	dBm	-	-	-32	Full Duplex, BER $\leq$ 10 <sup>-10</sup>
Optical Saturation	OL	dBm	-3	-	-	
Power Supply Voltage	Vcc	V3.3	3.0	3.3	3.6	
		V5	4.5	5.0	5.5	

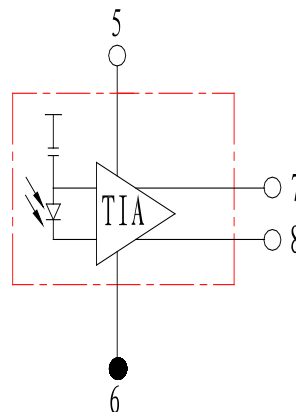
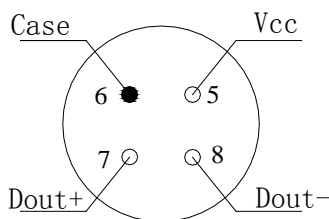
## Pin Description

Pin	Description	Pin	Description
1	Case	5	Vcc
2	LD Anode/MPD Cathode	6	Case /GND
3	MPD Anode	7	Dout+
4	LD Cathode	8	Dout-

Transmitter:



Receiver:



**Package Outline**

Figure 1(SC):

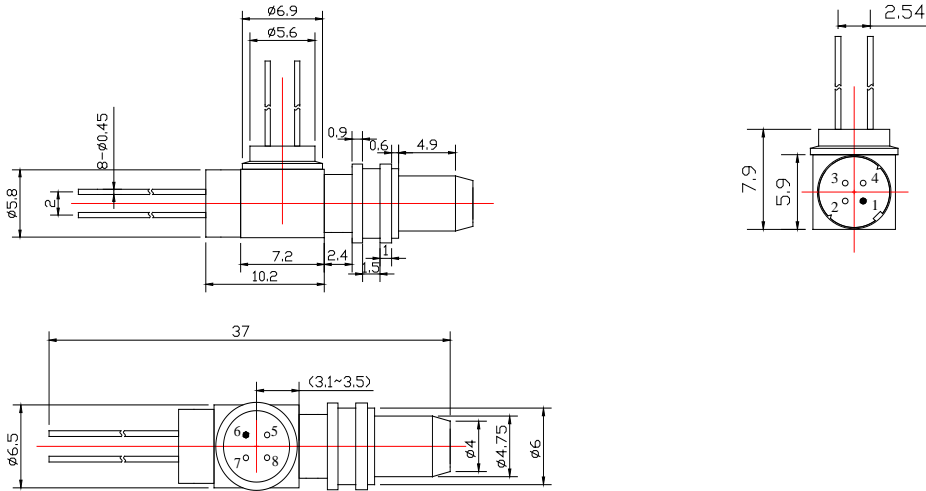
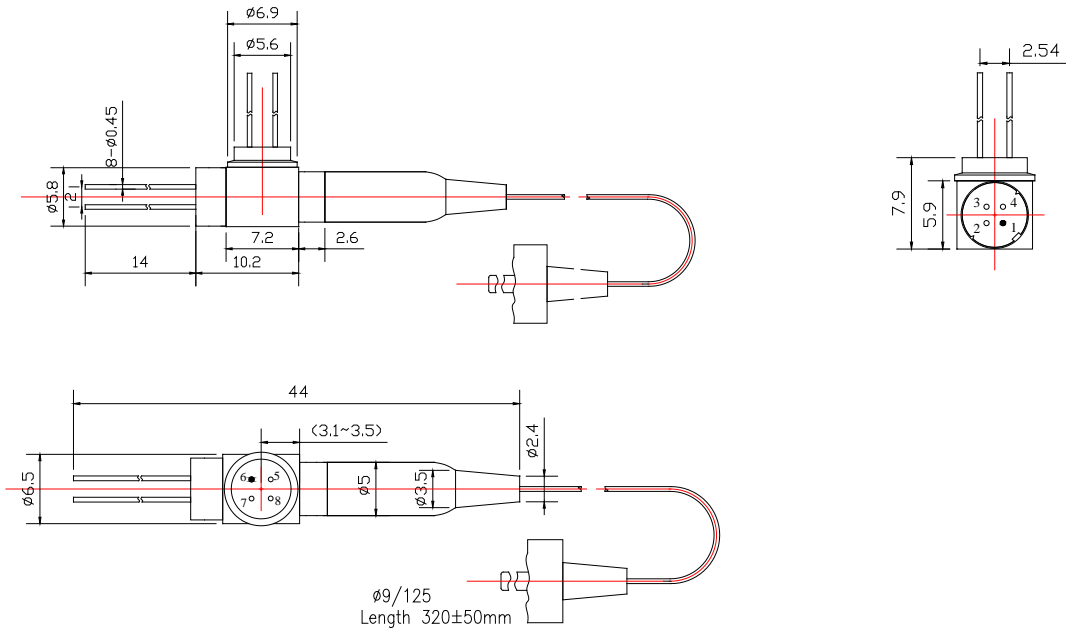


Figure 2(Pigtail):



## Ordering Information

Part No.	Specification								
	Package Datarate		Transmitter			Receiver		Temp	Others (Package Outline)
			$\lambda$ T	Power	$\lambda$ R	Sensitivity	Vcc		
PLDM583-A-2-SC-3.3	BOSA	155Mb/s	1310nm	-10dBm	1550nm	-32dBm (max)	3.3V	0~70	See Figure 1
PLDM583-B-2-SC-3.3	BOSA	155Mb/s	1550nm	-10dBm	1310nm	-32dBm (max)	3.3V	0~70	See Figure 1
PLDM583-A-2	BOSA	155Mb/s	1310 nm	-10dBm	1550nm	-32dBm (max)	5V	0~70	See Figure 2 (FC/PC)
PLDM583-B-2	BOSA	155Mb/s	1550nm	-10dBm	1310nm	-32dBm (max)	3.3V	0~70	See Figure 2 (FC/PC)
PLDM583-B-2-3.3	BOSA	155Mb/s	1550nm	-10dBm	1310nm	-32dBm (max)	3.3V	0~70	See Figure 2 (MUJ)

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