

BOSA FOR GEAPON ONU

PLDM585-169/269

Features

- *Integrated WDM for single fiber bi-directional transmission*
- *1310 nm direct modulation with uncooled MQW-FP-LD (for PLDM585-169) or DFB-LD (for PLDM585-269)*
- *Low optical crosstalk*
- *Low dark current Low capacitance InGaAs PIN photodiode with TIA*
- *Excellent sensitivity and overload characteristics*

Application

- *Access network ,e.g., GEAPON ONU ,Point-to-Point Networks(P2P)*
- *Any other digital transmission system with 1.25Gb/s data rate*

Standard

- *IEEE802.3ah*

Description

The PLDM585-169/269 series can be used in the ONU link of GEAPON network communication by 9/125um diameter fiber with SC/PC connector. A transmitter, one receiver and a piece of WDM filter build up it. The transmitter section uses the 1310nm continue-mode laser, the receive section uses 1490nm receiver with TIA.

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°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	Vcc	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	Tc	°C	0	25	+70
Power Supply Voltage	Vcc	V	-	3.3	3.8
Relative Humidity	RH	%	-	75	95

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

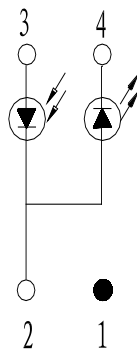
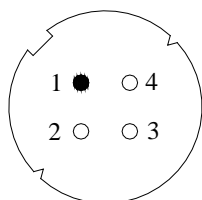
Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Transmitter: LD & MPD Characteristics						
Threshold Current	Ith	mA	6		20	CW
					50	CW, 70 °C
Output Power	pf	mW	1.0		3.0	CW, @Ith+20mA
Forward Voltage	VFL	V		1.1	1.5	CW, @Ith+20mA
Peak Wavelength	λ_p	nm	1280	1310	1340	CW
Spectrum Width	$\Delta \lambda_{FP}$	nm			3	RMS, CW, @Ith+20mA
	$\Delta \lambda_{DFB}$	nm			1	-20 dB ,CW, @Ith+20mA
Monitor-PD Current	Im	μ A	80			CW, @Ith+20mA
Rise and Fall Time	tr,tf	ns	0.15		0.3	10%-90%
Monitor-PD Dark Current	Idm	nA			10	-5V
Monitor-PD Capacitance	Cmt	pF			1	-5V
Receiver: PIN-TIA Characteristics						

Detection Range	λ	p nm	1480	1490	1500
Optical Sensitivity	S	dBm		-26	Full Duplex, BER \leq 10 ⁻¹⁰
Optical Saturation	OL	dBm	-3		
Power Supply Voltage	Vcc	V	3.0	3.6	

Pin Description

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

Transmitter:



Receiver:

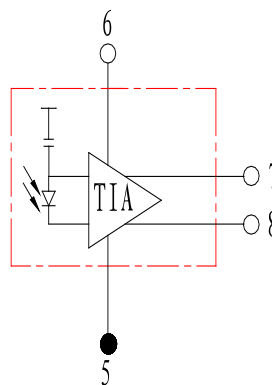
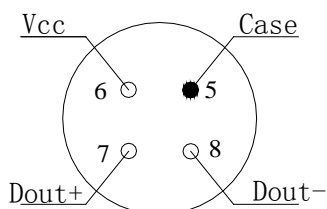


Figure 1:

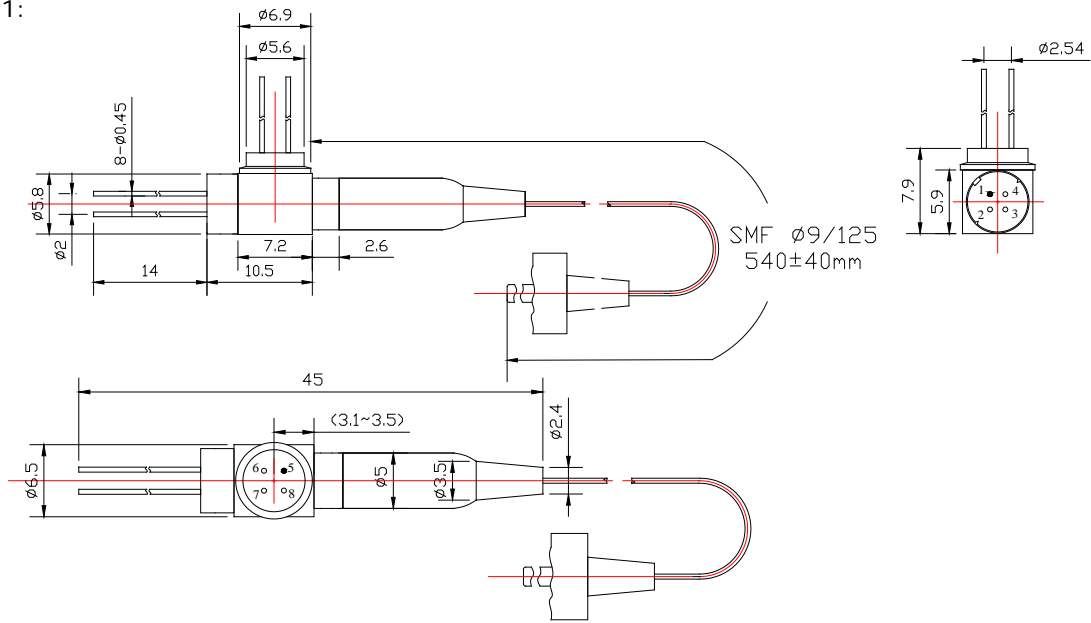


Figure 2:

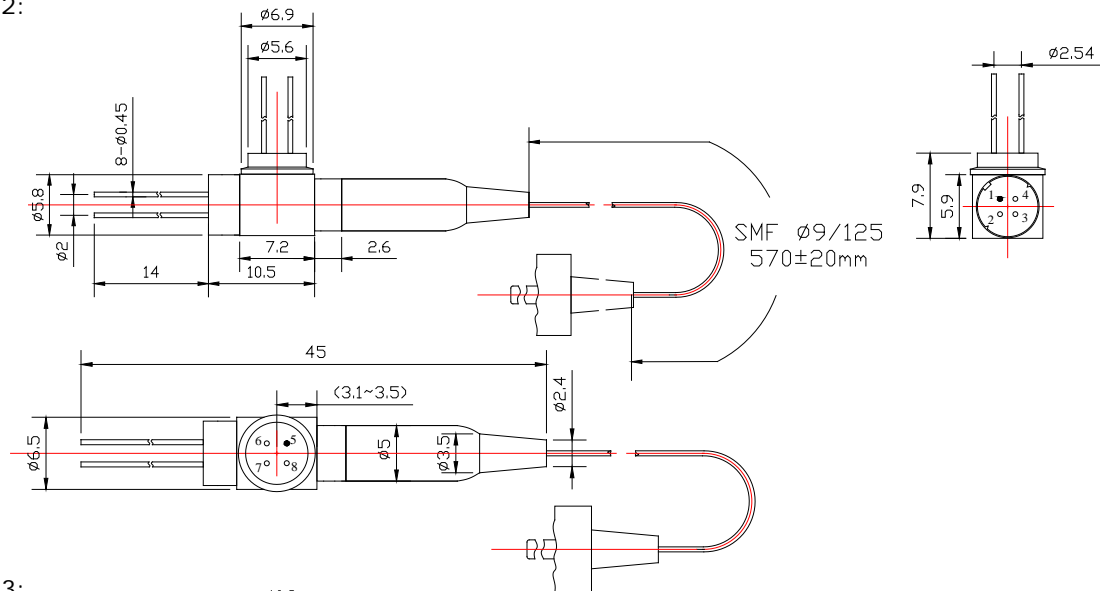
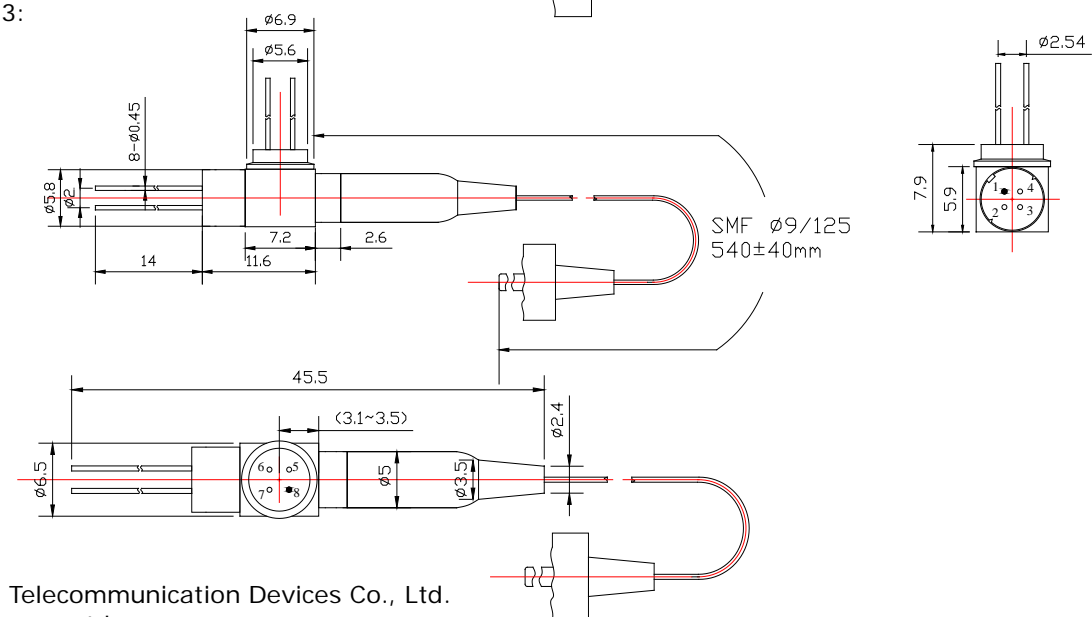


Figure 3:



Ordering Information

Part No.	Specification								
	Package	Datarate	Transmitter	Power	Receiver	Detector	Sensitivity	Temp	Others
PLDM585-169	BOSA	1.25Gb/s	1310nm-FP	1~3mW	1490nm	PIN+TIA	-26dBm	0~70	Figure 1, SC/PC
PLDM585-169L	BOSA	1.25Gb/s	1310nm-FP	1~3mW	1490nm	PIN+TIA	-26dBm	0~70	Figure 2, SC/PC
PLDM585-269	BOSA	1.25Gb/s	1310nm-DFB	1~3mW	1490nm	PIN+TIA	-26dBm	0~70	Figure 3, SC/PC

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