



10G LC XMD TOSA

LDM3S510-405

Features

- *XMD-MSA*
- *Direct modulated and uncooled operation at 1.3 μm wavelength*
- *High-stability MQW DFB-LD*
- *Built-in InGaAsP monitor photodiode*
- *Coaxial LC TOSA package (5pin)*
- *Built-in optical isolator*
- *Up to 10 km*

Applications

- *Supports performance up to 10.7 Gb/sec bit rate, 0 $^{\circ}\text{C}$ to +80 $^{\circ}\text{C}$ operating*
- *10 Gigabit Ethernet*
- *LR1 SONET/ SDH OC-192/ STM-64*

Standards

- *Telcordia GR-468-core Generic Reliability Assurance Requirements for Optoelectronic Devices Used in Telecommunication Equipments.*

Absolute Maximum Ratings

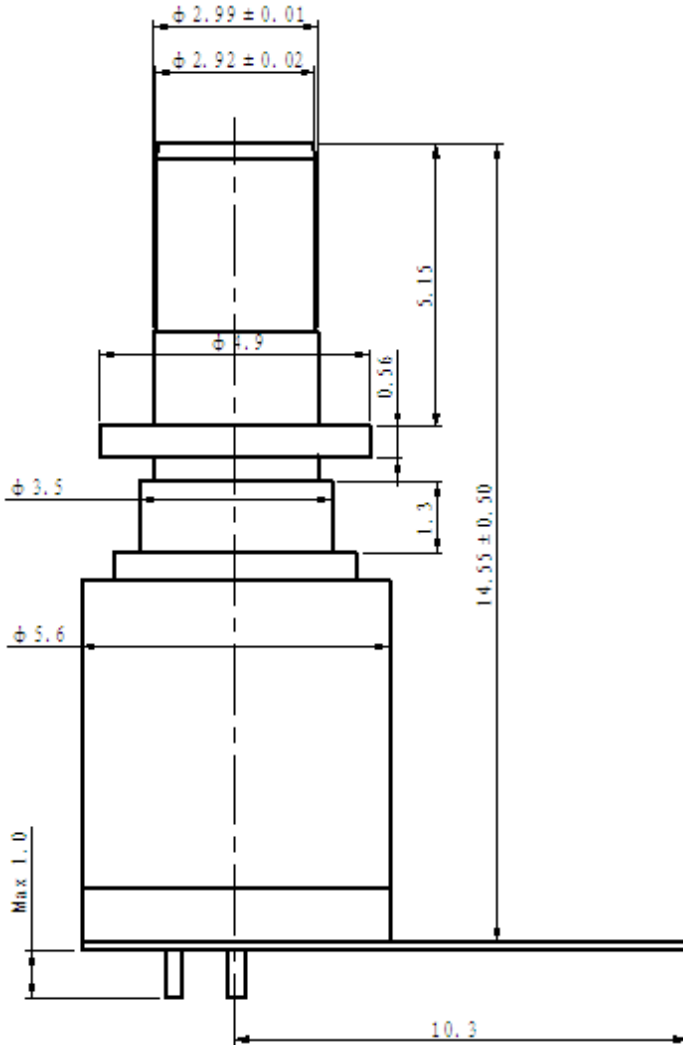
Parameter	Symbol	Unit	Min	Max
Optical output power	P _f	mW	-	4
Operating Temperature	T _c	°C	0	+80
Storage Temperature	T _s	°C	-40	+85
Relative Humidity	RH	%	5	95
Laser Diode Reverse Voltage	V _{RL}	V	-	2
Laser Diode Forward Current	I _{FL}	mA	-	120
Monitor PD Reverse Voltage	V _{RPD}	V	-	15
Monitor PD Current	I _{PD}	mA	-	2
Soldering Temperature (Flexible Printed Circuit)	T _{slid}	°C	-	260 (10 sec.)

Specifications *(T_c=25 °C, unless otherwise noted)*

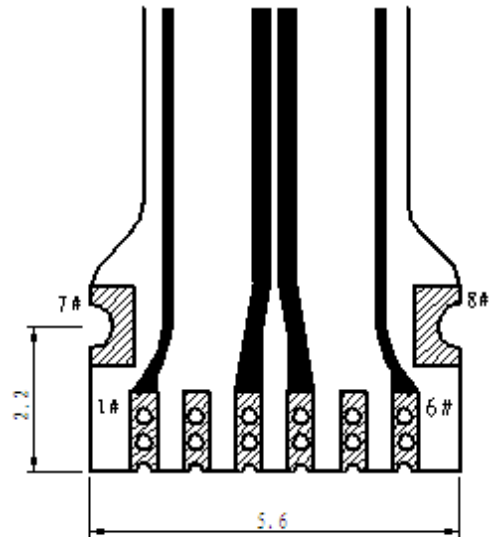
Parameter	Symbol	Unit	Min	Type	Max	Condition
Electrical Characteristics						
Threshold Current	I _{th}	mA	-	10	15	CW
			-	-	35	CW, over temperature
Operating Current	I _f	mA	-	50	-	CW
Laser Forward Voltage	V _f	V	-	1.3	1.8	at P _f
Monitor Current	I _m	uA	100	-	800	CW, I _f =I _{th} +40mA, V _{rd} =5V
Monitor Dark Current	I _d	uA	-	-	0.1	CW, V _{rd} =5V
Monitor Capacitance	C _t	pF	-	-	12	V _{rd} =5V, f=1MHz
Rise/Fall Time	Tr/Tf	ps	-	-	50	20-80%, I _f =I _{th} +40mA
Extinction ratio	ER	dB	-	7	-	PRBS 2 ³¹ -1, P _f =-3dBm
Optical Characteristics						
Optical Output Power	P _f	dBm	-4.5	-	-1.5	CW, I _f =I _{th} +40mA, Note 1
Peak Wavelength	λ _p	nm	1295	1310	1325	CW
Side Mode Suppression Ratio	SMSR	dB	30	-	-	CW
Spectral Width	Δλ	nm	-	-	1	-20dB
Wavelength/Temperature Coefficient	dλ/dT	nm/C	-	0.09	-	over temperature
Optical Isolation	I _{so}	dB	30	-	-	
Bandwidth	BW	GHz	-	10	-	at -3dB
Tracking Error	TE	dB	-1	-	+1	CW, over temperature, I _m =const (@P _f =-3dBm(25°C))

Package Outline and Electrical Terminal Description

Description (Unit: mm)



Package Outline



SN	Definitions
1	PD Cathode
2	Case GND
3	LD Cathode
4	LD Anode
5	Case GND
6	PD Anode
7	Case GND
8	Case GND

Electrical Terminal Description

Regulatory Compliance

Feature	Test method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883H Method 3015.8	Class III(>500 V)
...		

Ordering Information

Part No.	Specification				
	Package	Datarate	Laser	Optical Power	Temp
LDM3S510-405	LC XMD TOSA	10Gb/s	1310nm DFB	-4.5~-1.5dBm	0~+80°C

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