

## **1310nm 1.25 GB/s FP LC TOSA (Preliminary)**

### ***LDM3S508-003***

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#### **Features**

- *High data rate capability:  
1.25Gbit/s*
- *High-performance FP laser diode*
- *Built-in InGaAs, PIN monitor  
photodetector*
- *4-PIN Coaxial LC package*
- *Industry-standard TO-38  
packaged*
- *Operating temperature range  
-40~ +85°C*

#### **Applications**

- *SDH/SONET Transmission system  
up to 1.25Gb/s*
- *Gigabit Ethernet*
- *1Gbps fiber channel*
- *Other applications*

#### **Standards**

- *STM-4 optical interfaces (ITU-T Recommendation G.957)*

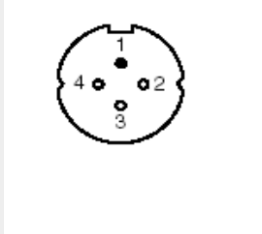
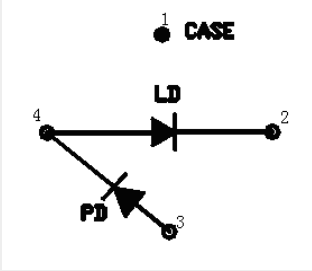
## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Case Operating Temperature Range	$T_c$	°C	-40	85
Storage Temperature Range	$T_s$	°C	-40	85
Relative Humidity	RH	%	-	85
Laser Diode Reverse Voltage	$V_{RL}$	V	-	2
Laser Diode Forward Current	$I_{FL}$	mA	-	100
Power Supply Voltage	Vcc/Vee	V	0	3.8
Monitor Diode Reverse Voltage	$V_{RD}$	V	-	15
Monitor Diode Forward Current	$I_{FD}$	mA	-	2
Lead Solder Temperature	-	°C	-	260
Lead Soldering Time	-	S	-	10

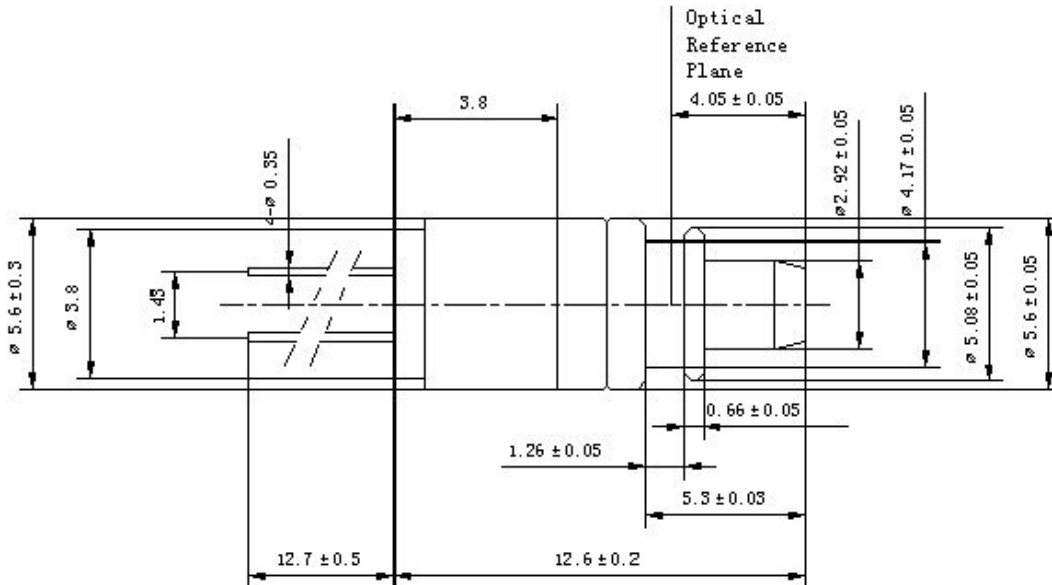
## Specifications ( $T=25\text{ }^\circ\text{C}$ , unless otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
<b>Electrical Characteristics</b>						
Operating Voltage	$V_{op}$	V	-	1.2	1.5	CW, $I_f = I_{th} + 20\text{mA}$
Threshold Current	$I_{th}$	V	-	10	15	CW
			5	-	40	CW, $T_c = -40$ to $85\text{ }^\circ\text{C}$
Rise/Fall Time	$T_{r/f}$	ns	-	-	0.15	$I_b = I_{th}$ ; 10%~90%
Monitor Current	$I_m$	$\mu\text{A}$	70	-	490	CW, $P_{pop} = 0.3\text{mW}$
Monitor Dark Current	$I_d$	nA	-	-	50	CW, $V_{RD} = 1.5\text{V}$ , $P_f = 0.3\text{mW}$
			-	-	500	CW, $V_{RD} = 1.5\text{V}$ , $T_c = -40$ to $85\text{ }^\circ\text{C}$
Series resistor	$R_s$	Ohm	-	-	12	
<b>Optical transmitter Characteristics</b>						
Optical Output Power	$P_o$	mW	0.7	-	1.2	CW, $I_f = I_{th} + 20\text{mA}$
Slope Efficiency	$S_e$	mW/mA	0.03	-	0.06	CW
			5	-	-	-
Central Wavelength	$\lambda_c$	nm	1295	1310	1325	CW
			1270	-	1355	CW, $T_c = -40$ to $85\text{ }^\circ\text{C}$
Spectral Width	$\Delta\lambda$	nm	-	-	4	CW, RMS
Tracking Error	$\Delta P_f$	dB	-1.5	-	1.5	CW, $T_c = -40$ to $85\text{ }^\circ\text{C}$
			-	-	-	$I_m = \text{const}@P_f (I_f = 30\text{mA}, T_c = 25\text{ }^\circ\text{C})$
Monitor PD Capacitance	C	pF	-	-	10	$V_{RD} = 5\text{V}$ , $f = 1\text{MHz}$
Connector Repeatability	-	dB	-	$\pm 0.5$	$\pm 1$	Same plug orientation, same fiber, 10 times plug, CW

## Pin Descriptions

Pin	Description	Bottom View	Pin Connections
1	CASE		
2	LD ( N )		
3	Detector ( P )		
4	LD ( P ) / Detector ( N )		

## Package Outline *(Unit: mm)*



## Regulatory Compliance

Feature	Test method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 2 (>2000 V)

## Ordering Information

Part No.	Specification					
	Package	Datarate	Laser	Optical Power	Temp	Others
LDM3S508-003	LC TOSA	1.25G	1310nm FP	0.45~0.9mW	-40~85°C	Common Anode
LDM3S508-002	LC TOSA	1.25G	1310nm FP	0.7~1.2mW	-40~85 °C	Common Anode

*\*: The product marked with \* is not available at present.*

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