



1310nm 2.5 Gb/s FP LC TOSA

LDM3S508-LC-5

Features

- *High data rate capability: 2.5Gbit/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

- *STM-16 SDH/SONET OC-48 transmission systems*
- *2.125Gbps fiber channel*
- *Other applications*

Absolute Maximum Ratings

| Parameter | Symbol | Unit | Min | Max |
|-------------------------------|-----------------|------|-----|-----|
| 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 | V_{cc}/V_{ee} | 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 |

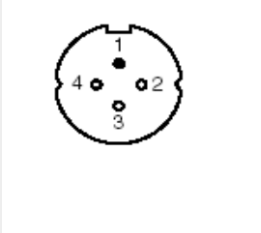
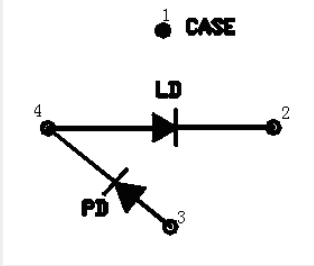
Recommended Operating Conditions

| Parameter | Symbol | Unit | Min | Typ | Max |
|----------------------------------|----------|------|-----|-----|-----|
| Case Operating Temperature Range | T_c | °C | -40 | 25 | 85 |
| Operating Voltage | V_{op} | V | - | 1.2 | 1.5 |

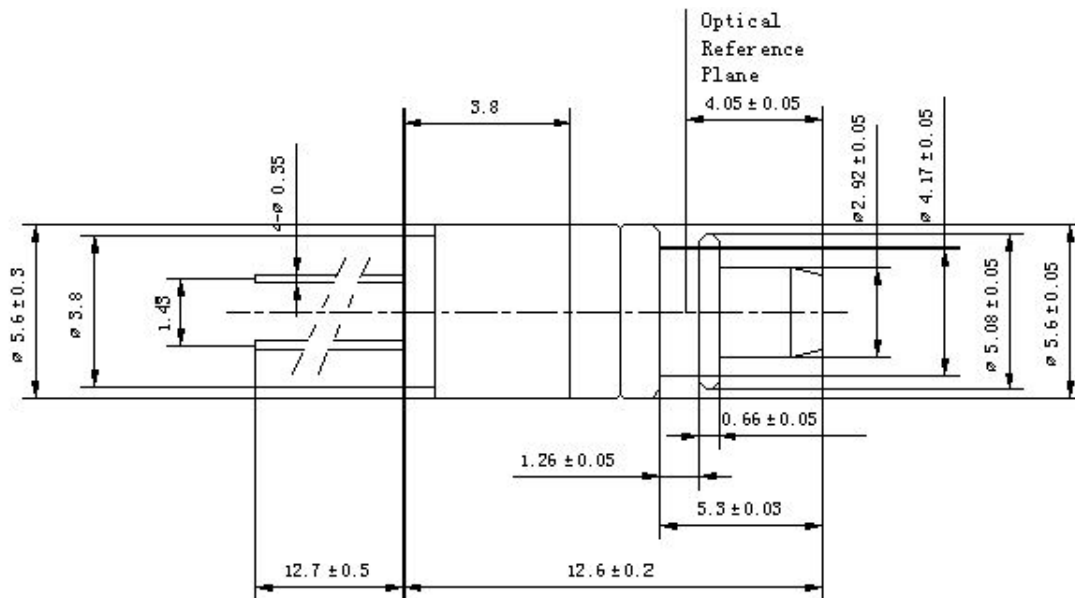
Specifications ($T_c=25\text{ }^\circ\text{C}$, unless otherwise noted)

| Parameter | Symbol | Unit | Min | Typ | Max | Test condition |
|-----------------------------------|-----------------|---------------|-------|-----------|---------|--|
| Electrical Characteristics | | | | | | |
| Threshold Current | I_{th} | V | - | 10 | 20 | CW |
| | | | - | - | 50 | CW, $T_c=-40$ to $85\text{ }^\circ\text{C}$ |
| Rise/Fall Time | $T_{r/f}$ | ns | - | - | 0.15 | $I_b=I_{th}$; 20%~80% |
| Monitor Current | I_m | μA | 100 | - | 1000 | CW, $I_f=I_{th}+20\text{mA}$ |
| Monitor Dark Current | I_d | nA | - | - | 50 | CW, $V_{RD}=1.5\text{V}$, $P_f=0.6\text{mW}$ |
| | | | - | - | 500 | CW, $V_{RD}=1.5\text{V}$, $T_c=-40$ to $85\text{ }^\circ\text{C}$ |
| Series resistor | R_s | Ohm | - | - | 12 | |
| Optical Characteristics | | | | | | |
| Optical Output Power | P_o | mW | 0.45 | - | 1.2 | CW, $I_f=I_{th}+20\text{mA}$ |
| Slope Efficiency | Se | mW/mA | 0.023 | - | 0.06 | CW |
| Central Wavelength | λ_c | nm | 1290 | 1310 | 1330 | CW |
| | | | 1260 | - | 1350 | CW, $T_c=-40$ to $85\text{ }^\circ\text{C}$ |
| Spectral Width | $\Delta\lambda$ | nm | - | - | 3 | CW, RMS |
| Tracking Error | ΔP_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 | - | ± 0.5 | ± 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)*



Ordering Information

| Part No. | Specification | | | | | |
|---------------|---------------|----------|-----------|---------------|----------|--------------|
| | Package | Datarate | Laser | Optical Power | Temp | Others |
| LDM3S508-LC-5 | LC TOSA | 2.5G | 1310nm FP | 0.45~1.2mW | -40~85°C | Common Anode |

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

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