

Uncooled 1310 nm Fabry-Perot (FP) Source Laser in LC Transmitter Optical Sub-assembly (TOSA)

CLR 92 Series



Key Features

- Uncooled operation from -40 to 95 °C
- Operation; 1 G, 2 G FC & GbE for datacom, OC-3 through OC-48 for telecom
- Industry-standard TO-38 header with LC receptacle
- Excellent wiggle performance

Applications

- Datacom: longwave 1 G FC, 2 G FC, GbE
- Telecom: SR-1 at OC-3 through OC-48

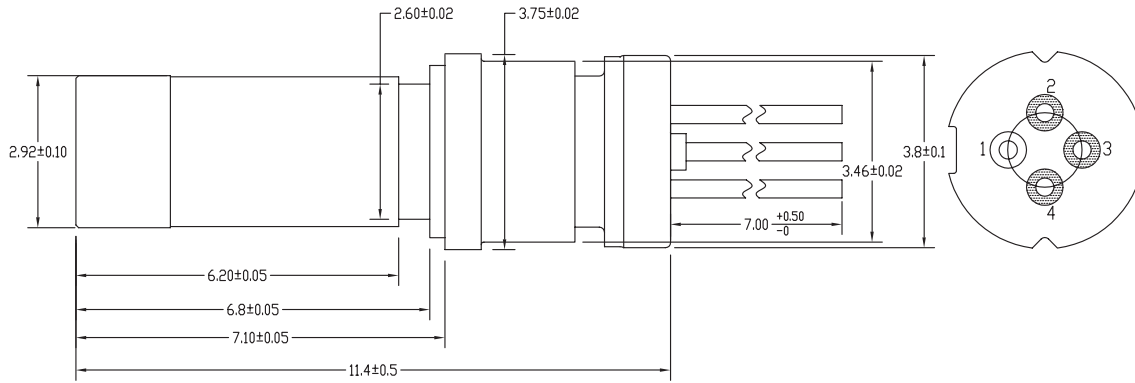
The Uncooled 1310 FP TOSA is a multi-rate 1310 nm direct modulated source laser packaged within an LC receptacle transmit optical sub-assembly (TOSA). The uncooled 1310 FP can be used for telecom data rates of 155 Mb/s up to 2.5 Gb/s for SONET SR, datacom rates of 1 G and 2 G fibre channel (FC), and gigabit Ethernet (GbE) applications.

Through the use of an AlInGaAs/InP ridge waveguide laser diode structure the device exhibits high slope efficiency and output power at operation up to 95 °C and bit rates of up to 2.5 Gb/s. Additionally, a robust opto-mechanical package design provides stable optical alignment resulting in excellent transceiver level wiggle performance.

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LC Type TOSA Dimensions Diagram

(Specifications in mm unless otherwise noted.)



Pinout

| Pin | Description |
|-----|---------------------|
| 1 | Case |
| 2 | LD cathode |
| 3 | PD anode |
| 4 | LD anode/PD cathode |

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Maximum Ratings

| Parameter | Symbol | Conditions | Minimum | Maximum |
|----------------------------|------------------|-------------|---------|---------|
| Storage temperature | - | - | -40 °C | 85 °C |
| Operating case temperature | T _c | - | -40 °C | 95 °C |
| Reverse voltage (LD) | V _{RLD} | - | - | 1 V |
| Reverse voltage (PD) | V _{RPD} | - | - | 15 V |
| Forward current (LD) | I _{FLD} | - | - | 150 mA |
| Forward current (PD) | I _{FPD} | - | - | 2 mA |
| Soldering temperature | | <10 seconds | - | 260 °C |

Specifications(T_c=25 °C, SM LC master connectr, BOL; unless otherwise noted.)

| Parameter | Conditions | Minimum | Typical | Maximum |
|--------------------------------------|--|-----------|------------|------------|
| Threshold current (I _{TH}) | T _c =25 °C | - | 9 mA | 15 mA |
| | T _c =-40 to 95 °C | - | 20 mA | 30 mA |
| Slope efficiency | -11.5 to -4.5 dBm | 0.020 W/A | 0.035 W/A | 0.050 W/A |
| | T _c =-40 to 95 °C, -11.5 to -4.5 dBm | 0.010 W/A | 0.020 W/A | - |
| Central wavelength | T _c =25 °C | 1295 nm | - | 1325 nm |
| | T _c =-40 to 95 °C, 10 dB ER, EOL | 1266 nm | 1310 nm | 1360 nm |
| RMS spectral width | T _c =-40 to 95 °C, 2.5 Gb/s 10 dB ER, -4.5 dBm, EOL | - | 1.0 nm | 1.75 nm |
| Relative intensity noise | 1.875 GHz BW, T _c =-40 to 95 °C, -4.5 dBm | - | -130 dB/Hz | -120 dB/Hz |
| Tracking error | T _c =-40 to 95 °C, relative to 25 °C | -1.5 dB | - | 1.5 dB |
| Rise/Fall time | 20 to 80%, -4.5 dBm | - | - | 0.15 ns |
| Extinction ratio | | 10 dB | - | - |
| LD operating voltage | -4.5 dBm | - | 1.2 V | 1.7 V |
| Monitor current | -4.5 dBm, V _R =1.5 V | 150 μA | 500 μA | 950 μA |
| Monitor capacitance | V _R =1.5 V | - | - | 25 pF |
| Wiggle | 150 g application 90° to TOSA | - | ±0.7 dB | ±2.0 dB |
| Coupling repeatability | 250 insertions | - | ±0.5 dB | ±1.0 dB |

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: 21065427

| Product Code | Description |
|---------------------|------------------------------------|
| 21065427 | CLR92/408 Uncooled 1310 nm FP TOSA |

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