## DESCRIPTION

The PLMF1XXC series module incorporates a highly linear MQW DFB laser emitting at ITU CWDM wavelengths from 1270-1610 nm, hermetically sealed in an industry standard coaxial package with a single mode fiber pigtail. This laser is especially suited as a low cost light source for analog CATV forward path (with external cooling), as well as RF over fiber applications.

## FEATURES

- High linearity distributed feedback (DFB) laser
- Low RIN noise
- Internal optical isolator
- Internal monitor photodiode
- RoHS compliant

## APPLICATIONS

- CATV forward path
- RF over fiber

## MODEL OPTIONS

**PLMF1XXC - X - N - Y - Z**

| XX: | Wavelength |
|---|---|
| | **From 1270 ~ 1610 nm in 20 nm increments.**<br><br>**For example, XX=35 denotes 1350 nm** |

| X: | Pin Out |
|---|---|
| A: | Type A |

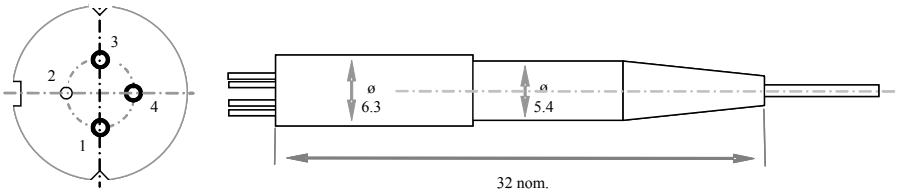
| N: | Isolators |
|---|---|
| 1: | Single |
| 2: | Double |

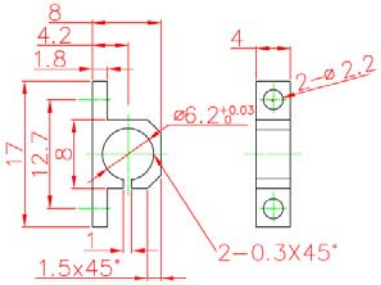
| Y : | Output Power |
|---|---|
| 2 : | ≥ 2mW |
| 4 : | ≥ 4mW |
| 6 : | ≥ 6mW |
| 8 : | ≥ 8mW |
| 10 : | ≥ 10mW |
| 12 : | ≥ 12mW |

| Z : | Connector |
|---|---|
| S : | SC/APC |
| F : | FC/APC |

## MECHANICAL SPECIFICATIONS AND PINOUT CONFIGURATI

(in mm unless otherwise noted)




- SMF-28e optical fiber, flame retardant Hytrel coating, 0.9 mm diameter
- Fiber Length: 1-meter minimum, with SC/APC or FC/APC connector termination
- C-Clamp mounting bracket standard

| PIN | Type A |
|---|---|
| 1 | PD+ |
| 2/GND | LD+ |
| 3 | LD- |
| 4 | PD- |

| ELECTRO-OPTICAL CHARACTERISTICS (25°C unless otherwise stated) | | | | | | |
|---|---|---|---|---|---|---|
| PARAMETER | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
| Operating Temperature | $T_{OP}$ | $I_F = I_{OP}$ | -20 | | +45 | °C |
| Threshold Current | $I_{TH}$ | T = 25 °C<br>T = 45 °C | -- | 8<br>12 | 15<br>20 | mA |
| Operating Current | $I_{OP}$ | $T_{OP}$ = 85 °C | - | | 90 | mA |
| Operating Voltage | $V_{OP}$ | | -- | | 2 | V |
| Operating Output Power | $P_o$ | See model #s | | | | mW |
| Monitor PD Responsivity | $r_{MPD}$ | -- | 50 | | 2500 | μA |
| Monitor PD Dark Current | $I_D$ | | -- | | 0.2 | μA |
| Wavelength Accuracy | $\lambda_{OP}$ | $I_F = I_{OP}$<br>T = 25 °C | -3 | | +3 | nm |
| Wavelength Temperature Sensitivity | Δλ/ΔT | | | | 0.12 | nm/°C |
| Side Mode Suppression | SMSR | $I_F = I_{OP}$ | 30 | 45 | -- | dB |
| Optical Isolation | ISO | Single Isolator | 30 | | -- | dB |
| | | Double Isolator | 43 | | | |
| Tracking Error | $E_R$ | | -1 | | +1 | dB |
| Bandwidth | | | 3 | | | GHz |
| Carrier to Noise | CNR | See Note (1) | 51 | | -- | dB |
| Composite 2nd Order | CSO | | -- | | -57 | dBc |
| Composite 3rd Order | CTB | | -- | | -65 | dBc |
| Relative Intensity Noise (2) | RIN | | -- | | -145 | dB/Hz |

(1) $P_0$ at rated power, 25 °C, 79 NTSC Channels, 0 km fiber, 0 dBm received power
(2) CW, 5-1000 MHz

| MAXIMUM RATINGS | | | | | |
|---|---|---|---|---|---|
| PARAMETER | SYMBOL | CONDITIONS | MIN | MAX | UNIT |
| Storage temperature | - | Continuous | -40 | 85 | °C |
| Monitor Photodiode Reverse Voltage | - | 60 seconds | | 15 | V |
| | | Continuous | | 15 | V |
| Forward DC laser current | - | Continuous | | 150 | mA |
| Reverse DC laser voltage | - | Continuous | | 1 | V |
| Lead Soldering Temperature | | 10 seconds | | 260 | °C |

## PRODUCTION VOLUME PACKAGING:

Lasers will be packaged in trays as shown below. Up to 10 devices can be carried in one tray.