



## DESCRIPTION

The PLMR3 series of modules incorporate highly linear MQW DFB lasers emitting at 1310 nm, hermetically sealed in industry standard coaxial packages with one single mode fiber pigtail in each. These lasers are especially suited as uncooled, low cost light sources for analog CATV return path, as well as intermediate and long reach applications.

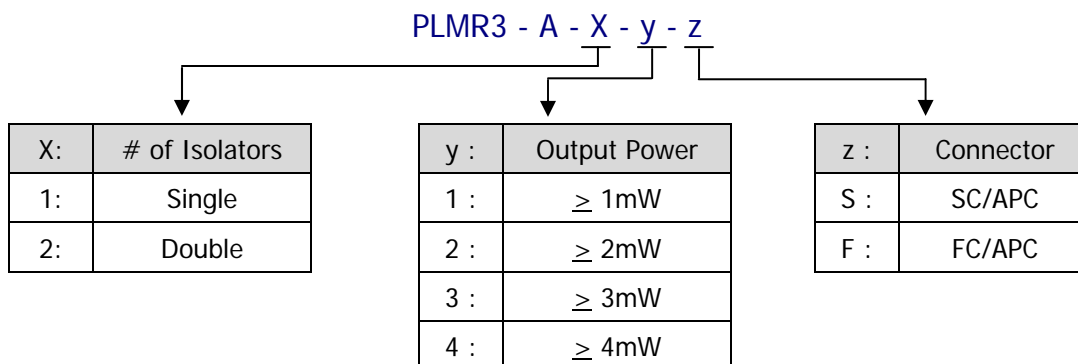
## FEATURES

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

## APPLICATIONS

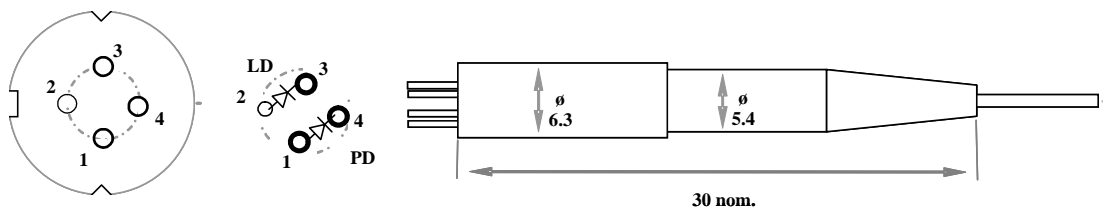
- CATV return path
- RF over fiber

## MODEL OPTIONS



## MECHANICAL SPECIFICATIONS AND PINOUT CONFIGURATION

(in mm unless otherwise noted)



- SMF-28 optical fiber, flame retardant Hytel coating, 0.9 mm diameter
- Fiber Length: 1-meter minimum with connector termination
- Custom pin configurations available. Mounting bracket optional.

| PIN | Type A               |
|-----|----------------------|
| 1   | PD Anode             |
| 2   | LD Anode/Case Ground |
| 3   | LD Cathode           |
| 4   | PD Cathode           |

| ELECTRO-OPTICAL CHARACTERISTICS       |                |  |      |          |                  |
|---------------------------------------|----------------|--|------|----------|------------------|
| PARAMETER                             | SYMBOL         | CONDITIONS                               | MIN  | MAX      | UNIT             |
| Operating Temperature                 | $T_{OP}$       | $I_F = I_{OP}$                           | -20  | 85       | °C               |
| Threshold Current                     | $I_{TH}$       | $T = 25\text{ °C}$<br>$T = 85\text{ °C}$ | --   | 15<br>40 | mA               |
| Operating Current                     | $I_{OP}$       | $T = T_{OP}$                             | -    | 90       | mA               |
| Operating Voltage                     | $V_{OP}$       |  | --   | 2.1      | V                |
| Operating Output Power                | $P_o$          | See model #                              |      |          | mW               |
| Monitor PD Responsivity               | $r_{MPD}$      | --                                       | 10   | 200      | $\mu\text{A/mW}$ |
| Monitor PD Dark Current               | $I_D$          | $I_{OP} = 0\text{ mA}$                   | --   | 0.2      | $\mu\text{A}$    |
| Operating Wavelength                  | $\lambda_{OP}$ | $I_F = I_{OP}, T = T_{OP}$               | 1290 | 1330     | nm               |
| Side Mode Suppression                 | SMSR           | $I_F = I_{OP}$                           | 30   | --       | dB               |
| Optical Isolation                     | ISO            | Single                                   | 30   | --       | dB               |
|                                       |                | Double                                   | 50   |          |                  |
| Tracking Error                        | $E_R$          |  | -1   | +1       | dB               |
| Bandwidth                             |                |  | 2    |          | GHz              |
| 2 <sup>nd</sup> Order Intermodulation | IMD2           | See Note (1)                             | --   | -50      | dBc              |
| 3 <sup>rd</sup> Order Intermodulation | IMD3           |  | --   | -57      | dBc              |
| Relative Intensity Noise              | RIN            | $f = 5 \sim 300\text{ MHz}$              | --   | -145     | dB/Hz            |

<sup>(1)</sup>Test conditions:  $P_o$  at rated power, 25 °C, OMI = 20%, 2-tone, 13 MHz and 19 MHz, received power = -4 dBm

| MAXIMUM RATINGS                    |        |            |     |     |      |
|------------------------------------|--------|------------|-----|-----|------|
| PARAMETER                          | SYMBOL | CONDITIONS | MIN | MAX | UNIT |
| Storage Temperature                | -      | Continuous | -40 | 85  | °C   |
| Monitor Photodiode Reverse Voltage | -      | 60 seconds | -   | 15  | V    |
|                                    |        | Continuous | -   | 10  | V    |
| Forward DC Laser Current           | -      | Continuous | -   | 100 | mA   |
| Reverse DC Laser Voltage           | -      | Continuous | -   | 1   | V    |