

# OSICS DFB LANWDM

## DISTRIBUTED FEEDBACK LASER

- The OSICS LANWDM modules, based on high-performance distributed feedback laser diodes, are perfect for LR4 and ER4 testing of silicon photonics chips.

### KEY FEATURES

External and internal LF modulation

10 dBm output power from a single mode fiber with a stability of  $\pm 0.01$  dB over 1 hour

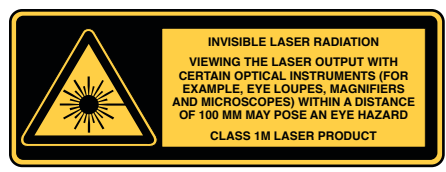
$\pm 30$  pm wavelength accuracy and stability of  $\pm 5$  pm over one hour

Wavelength grid matched to LANWDM channels with typical tuning range of 1.8 nm



| SPECIFICATIONS                                |  |   |                                     |
|---|--|---|-------------------------------------|
|   |  | SMF   | PM13                                |
| Models <sup>a</sup>                           | Channel 1  | 1309.14 nm / 229.0 THz                                    |                                     |
|   | Channel 2  | 1304.58 nm / 229.8 THz                                    |                                     |
|   | Channel 3  | 1300.05 nm / 230.6 THz                                    |                                     |
|   | Channel 4  | 1295.56 nm / 231.4 THz                                    |                                     |
| Wavelength                                    | Channel center <sup>a</sup>                                  | Grid matched  |                                     |
|   | Tuning range (nm) <sup>a</sup>                               | 1.6 (1.8 typical)   |                                     |
|   | Accuracy (nm) <sup>b</sup>                                   | ±0.03   |                                     |
|   | Stability over 1 hour (nm) <sup>b, c, d</sup>                | ±0.005  |                                     |
|   | Stability over 24 hours (nm) <sup>b, c, d</sup>              | ±0.005 typical  |                                     |
| Power   | Maximum (mW)   | 10  |                                     |
|   | Stability over 1 hour (dB) <sup>b, c, d</sup>                | ±0.01   |                                     |
|   | Stability over 24 hours (dB) <sup>b, c, d</sup>              | ±0.01 typical   |                                     |
|   | Optical isolation (dB)                                       | > 30  |                                     |
|   | Relative intensity noise (RIN) (dB/Hz) <sup>e</sup>          | < -130  |                                     |
| Spectrum                                      | Laser line width (MHz)                                       | < 10  |                                     |
|   | SMSR (dB) <sup>b</sup>                                       | > 30 (40 typical)   |                                     |
| Modulations                                   | TTL  | Internal<br>External                                      | 1 Hz to 890 kHz<br>16 Hz to 890 kHz |
|   | Analog (external/front panel)                                |   | 150 Hz to 150 MHz                   |
|   | Stimulated brillouin scattering (SBS) suppression (internal) | Waveform<br>Frequency range (kHz)<br>Modulation depth (%) | Sine<br>10 to 100<br>0 to 15        |
| Interfaces on module front panel <sup>f</sup> | Enable key with status LED                                   |   | Power up laser                      |
|   | Optical fiber  | SMF   | PM13                                |
|   | Fiber alignment to connector key                             | n/a   | Slow axis                           |
|   | Polarization extinction ratio (PER) (dB)                     | n/a   | > 17                                |
|   | Optical connector  |   | FC/APC narrow key                   |
|   | Electrical connector   |   | Coaxial SMB - 50 Ω                  |
| Others  | Laser safety   |   | Class 1 M                           |
|   | Dimensions (W x H x D)                                       | 35 mm x 128 mm x 230 mm (1 3/8 in x 5 in x 9 in)          |                                     |
|   | Weight   | 1.1 kg (2.43 lb)  |                                     |

## LASER SAFETY



- a. Location of channel center: lower boundary of the range + 0.4 nm < channel center < upper boundary of the range - 0.4 nm.  
b. After warm-up and at maximum power.  
c. At a constant temperature.  
d. Measured with an APC terminated jumper on a powermeter.  
e. RIN within the range 100 MHz - 20 GHz measured at 10 dBm output power with RBW = 30 kHz.  
f. See OSICS mainframe specifications sheet for details on OSICS common specifications and interfaces on the rear panel.

## ORDERING INFORMATION

OS-DFB-L $XX$ - $XX$ -58**Channel number**

F = 228.2 THz + 800 GHz x channel number

001-004

**Connector**

58 = FC/APC

**Output fiber**

00 = SMF28 singlemode output fiber

P = PM13 polarization maintaining fiber

Example: OS-DFB-L004-00-58

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