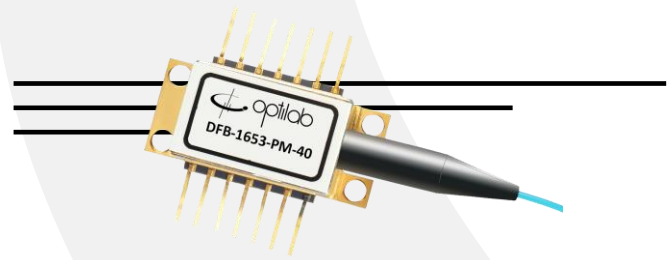


DFB-1653-PM-40



DEVICE 1653 nm, Up to 40 mW, DFB Laser, PM Output, CW Capable

OVERVIEW

The Optilab DFB-1653-PM-40 is a single frequency CW laser coupled with Polarization Maintaining fiber. Built with Distributed Feed-Back Grating (DFB) as cavity reflector, it provides a pure, single longitudinal mode, and extremely stable wavelength source. This laser diode is fabricated with Multiple Quantum Well (MQW) for excellent reliability and stability. It can be used either in CW operation for seeding the external modulation and coherence interferometry, or directly modulated for signal transmission. This MQW DFB laser features 40 mW of output optical power, high Side Mode Suppression Ratio (SMSR). The standard 14-pin butterfly integrates TEC, thermistor, monitor PD and an output isolator. Mode hop free version available upon request. Contact Optilab for more information.

FEATURES

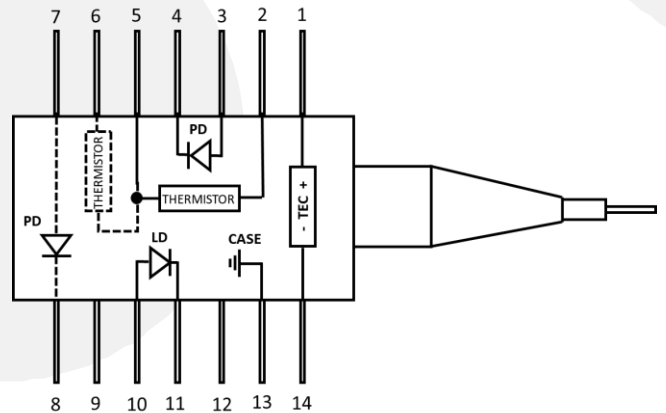
- Polarization Maintaining Output
- Up to 40 mW Output Power
- High SMSR , 50 dB typ.
- Mode Hop Free Version Available
- CW Laser
- Wavelengths Range to Select: from 1653.6 nm to 1653.8 nm
- Built in TEC, Thermistor & Monitor PD

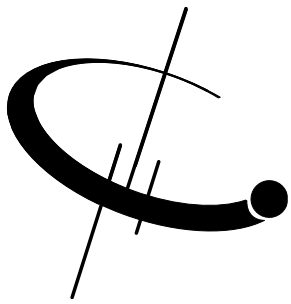
USE IN

- Dense Wavelength Division Multiplex (DWDM)
- RF over Fiber (RToF)
- Hybrid Fiber-Coaxial (HFC)
- General Laboratory and Research Use
- CW Laser Source

FUNCTIONAL DIAGRAM

Pin#	Desc	Pin#	Desc
1	TEC+	8	NC
2	Thermistor	9	NC
3	PD+	10	LD+
4	PD-	11	LD-
5	Thermistor	12	NC
6	NC	13	CASE
7	NC	14	TEC-





DFB-1653-PM-40

SPECIFICATIONS

Wavelength Range	1653.6 nm to 1653.8 nm
Optical Output Power	40 mW
Operating Current	150 mA typ.; 300 mA max.
Forward Voltage	1.5 V typ.; 2.5 V max.
Series Resistance	25 Ω typ.
Threshold Current	30 mA typ.; 60 mA max.
Monitor Current	0.10 mA min.; 1.0 mA max.
Photodiode Dark Current	2 nA typ.; 100 nA max.
Side Mode Suppression Ratio	35 dB min.; 50 dB typ.
Optical Isolation	35 dB typ.
Polarization Extinction Ratio	20 dB typ.
Slope Efficiency	0.1 mW/mA min.; 0.2 mW/mA typ.

GENERAL

MECHANICAL

Operating Temperature	0 °C to +70 °C
Storage Temperature	-40 °C to +85 °C
Operating Humidity	0 to 90% RH
Optical Fiber Type	PANDA PM
Optical Connector	FC/APC, Other Available

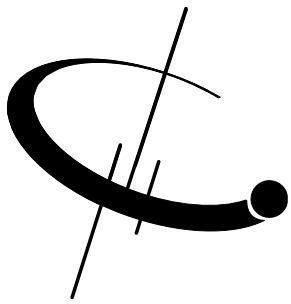
TEC AND THERMISTOR CHARACTERISTICS

TEC Current	1.8 A max.
TEC Voltage	4.3 V max.
TEC Resistance	2.4 Ω typ.
Thermistor Resistance	10 \pm 0.5 k Ω m @ 25 °C, NTC
Thermistor B Constant	3,270 K min.; 3,450 K typ.; 3,630 K max.

ABSOLUTE MAXIMUM RATING

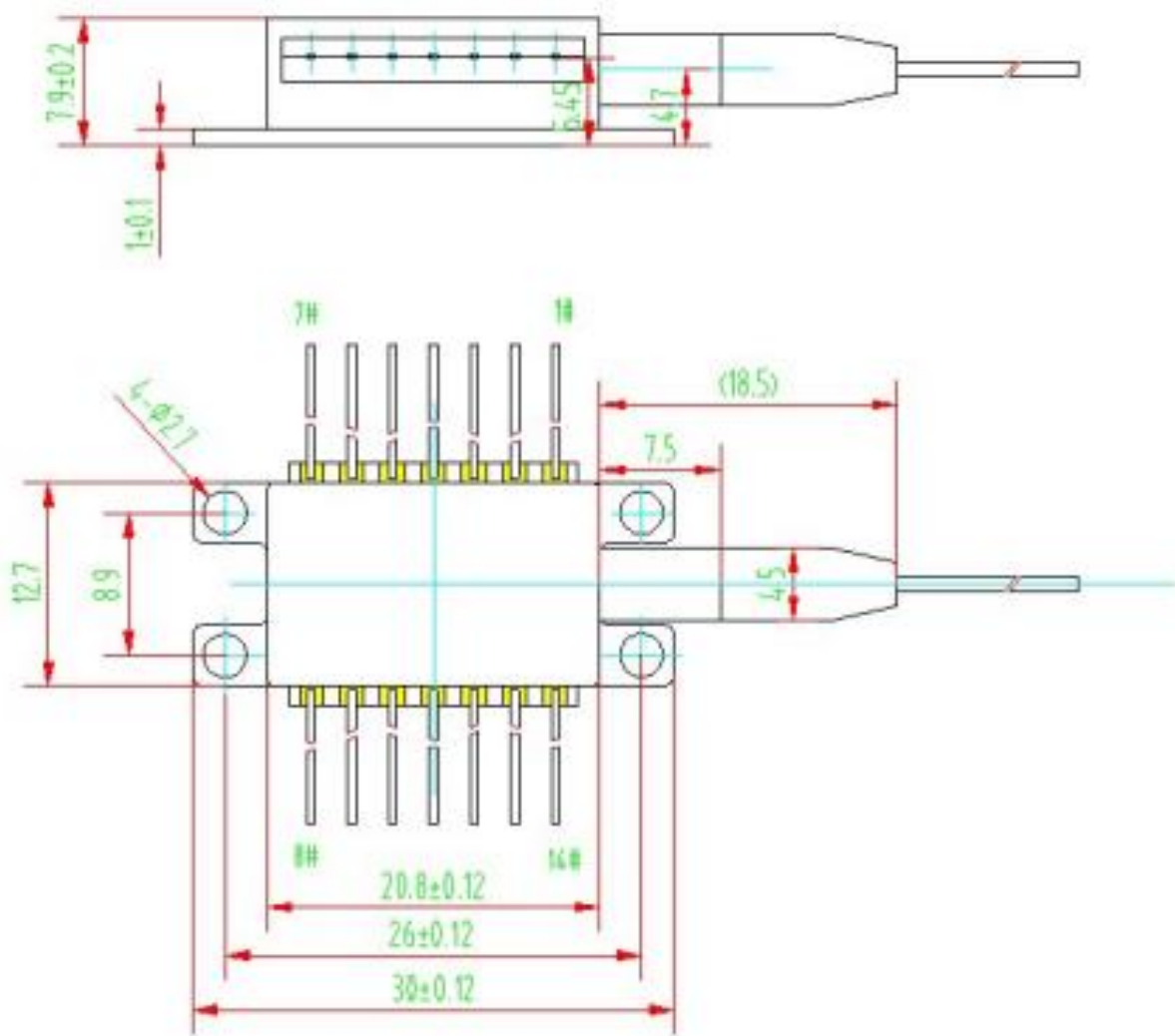
Reverse Voltage	2 V
Operating Current	300 mA
PD Reverse Voltage	20 V
PD Forward Current	10 mA
TEC Voltage	5 V
TEC Current	5 A

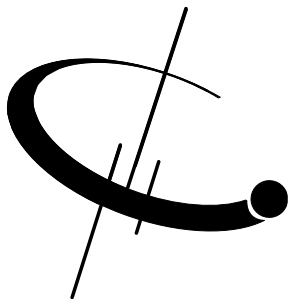




DFB-1653-PM-40

MECHANICAL DRAWING





DFB-1653-PM-40

AVAILABLE ACCESSORIES

UNIVERSAL LASER DIODE CONTROLLER (ULDC-500-MC)



The ULDC-500-MC is a fully integrated Universal Laser Diode Controller designed for 14 pin butterfly package. This compact, easy to use laser diode driver module operates under a single + 5 V power supply. ULDC-500-MC offers LD current and temperature control that comes with a built in LCD display and a USB port for external PC control. The module is equipped with an adapter board, thus making it compatible with 14 pin butterfly LD module for any laser manufacturers by switching the daughter boards provided in the package. It features LD current range of 0-500 mA with a setting resolution of 1 mA and temperature range of 15 °C-35 °C with a setting resolution of 0.1 °C.

DFB-1653-PM-40 can be ordered as DFB- PM-M, which allows DFB laser's operating temperature and output power precisely controlled to ensure constant wavelength and power stability. It can be used for module level integration system.

