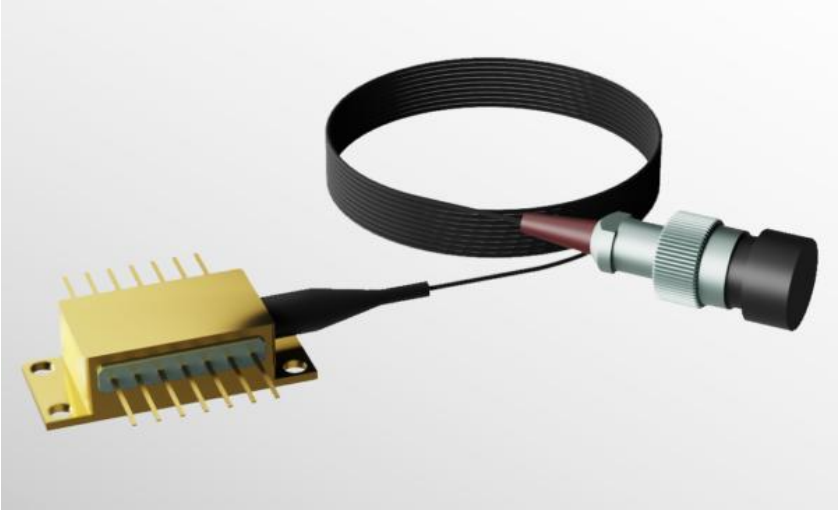
810 nm DBR Laser Diode



Product Description

The 810 nm Distributed Bragg Reflector (DBR) high-performance edge-emitting laser diode is fabricated based on advanced monolithic integrated single-frequency Gallium Arsenide (GaAs) laser technology.This series of diodes outputs single spatial mode laser beams, with passivated facet design to guarantee operational reliability. The 810 nm DBR device can serve as a low-noise pumping source, and is applicable to biomedical diagnosis and imaging fields.

Product features

Excellent spectral performance；High output power and outstanding device reliability；Superior beam quality

Part Number

MP-DBR-810-130-14BF-PA

Application area

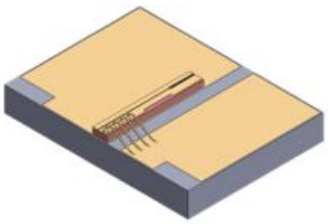
High-performance Pumping Applications | High-end Sensing & Scientific Research Applications

Core parameters

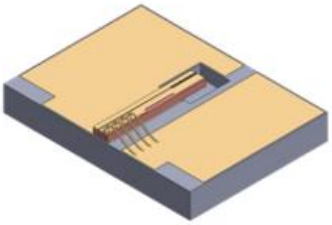
Central Wavelength
810nm

General Parameters

Detailed parameters



Chip on Submount (CoS)



CoS + Mode-Hop Free (MHF)

810nm DBR chip carrier package (CoS) characteristics

	Chip structure
Parameter [1]	High power
Nominal wavelength (nm)[2]	810± 0.6
Power Range (mW)	80-180
Maximum Operating Current (CW & Pulse) (mA)	250
Maximum Operating Current Hour Power (mW)	180
Nominal Slope Efficiency (W/A)	0.85
Nominal threshold current (mA)	60

1. Unless otherwise stated, all characteristics are measured at a case temperature (TC) of 25°C. Operating outside of these parameters will void the warranty.

2. The sealed package may contain a chip carrier (CoS) with a wavelength deviation of ±1.2 nm from the nominal value.

Available free-space encapsulation add-ons

TO-8

C-Mount

Transmitter Optical Subassembly (TOSA)

Parameters

Laser

Parameters	unit	Minimum	Typical values	Maximum
Storage temperature	℃	0	-	70
Shell operating temperature	℃	5	-	70
The laser chip operating temperature [1]	℃	5	-	45
Laser series resistance	Ω	-	2	-
Laser forward voltage @LIV current	V	-	2	-
Laser line width, typical @LIV current	kHz	-	500	-
Beam Divergence Angle @FWHM (θ|| x θ⊥)	°	-	6x28	8 x 32
Edge-mode rejection ratio (SMSR)	dB	-	-40	-
Polarization extinction ratio	dB	-17	-20	-
Polarized state of the laser	TE			
Pattern structure	Fundamental mode			
Temperature tuning rate	nm/℃	-	0.06	-
Current tuning rate	nm/mA	-	0.002	-
Laser reverse voltage	V	-	-	0

1. If the package is not sealed, it is not recommended to work in an environment below the dew point

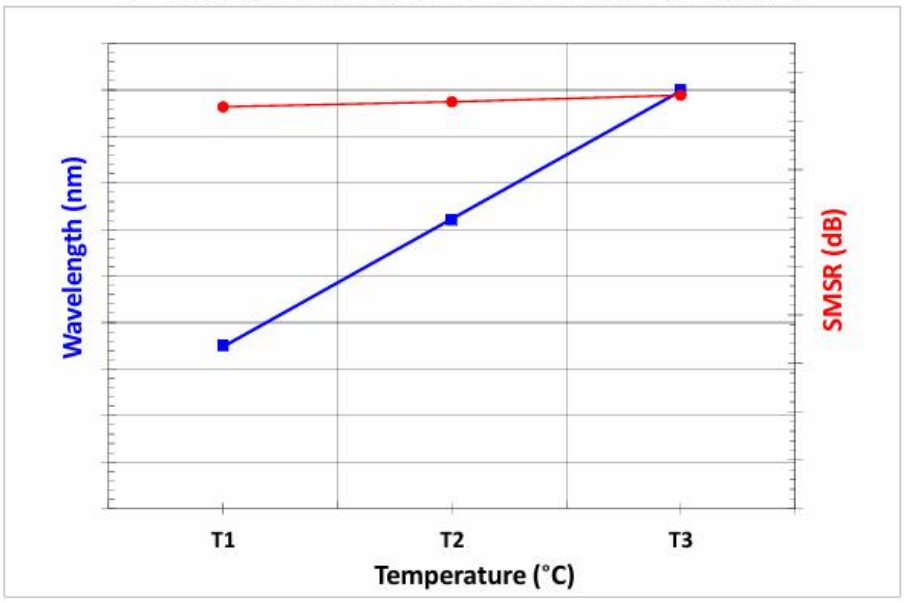
Free space encapsulation add-ons

Parameters	unit	Minimum	Typical values	Maximum
Photodiode forward current	mA	-	-	10
Photodiode reverse voltage	V	-	-	50
TEC Current (TOSA)	A	-1.1	-	1.1
TEC Voltage (TOSA)	V	-3.0	-	3.0
TEC Current (TO-8)	A	-1.8	-	1.8
TEC Voltage (TO-8)	V	-2.2	-	2.2
Thermistors	kΩ	-	10	-

Handling Precautions

These devices are sensitive to ESD. When handling the module, grounded work area and wrist strap must be used. Always store in an antistatic container with all leads shorted together.

Air Wavelength Characteristics at Constant Current by Temperature



LIV Characteristics by Current