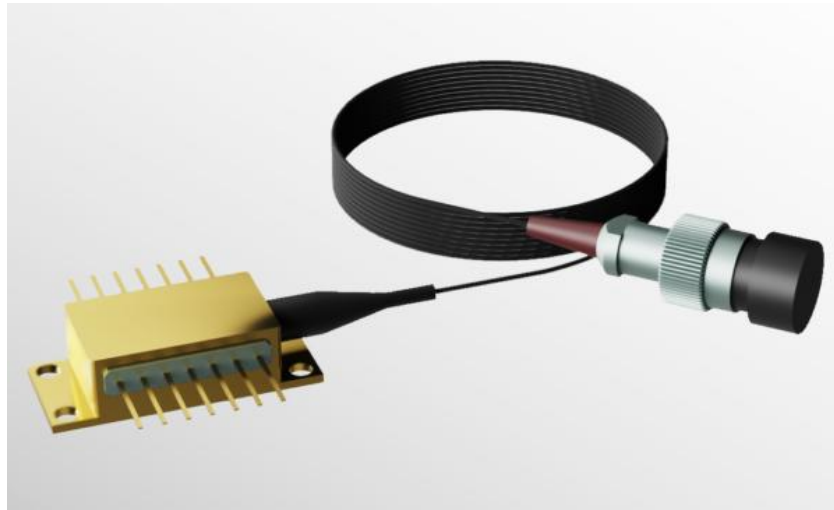


976nm DBR Laser Diode



- **Product Description**

The 976nm DBR series high-performance edge-emitting laser diodes are based on advanced monolithic single-frequency gallium arsenide (GaAs) laser technology. It provides a single spatial mode beam with passivated facets for enhanced reliability. The 976nm DBR devices are used in optical coherence tomography (OCT) and other biomedical imaging and sensing applications.

- **Product features**

Excellent spectral performance; high output power and reliability; intelligent control and ease of use



● Part Number

MP-DBR-976-200-14BF-PA

● Application area

Atomic Sensing and Quantum Technology | Pump Source for Fiber Lasers
and Amplifiers | Laser Spectroscopy and Sensing

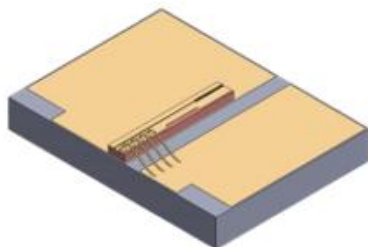
● Core parameters

Central Wavelength
976nm

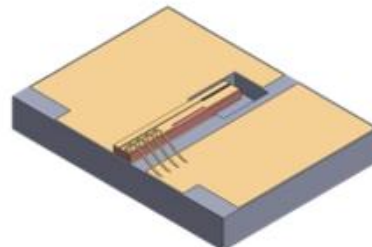
● General Parameters

Model Parameters

Detailed parameters



Chip on Submount (CoS)



CoS + Mode-Hop Free (MHF)

976nm (COS) package characteristics

	Chip architecture
Parameter ¹	High power
Nominal wavelength (nm) ²	976
Power range (mW)	80–350
Maximum Operating Current (CW & Pulsed) (mA)	400
Optical power at maximum operating current (mW)	/
Nominal Slope Efficiency (W/A)	/
Nominal threshold current (mA)	/

1. Unless otherwise noted, all parameters are measured at a junction

temperature of 25°C. If used outside of these parameters, the warranty will be void

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

3. High temperature characteristics are specified at 65 degrees Celsius.

Available free-space package add-ons



TO-8



C-Mount



Transmitter Optical Subassembly (TOSA)



Laser specifications

Parameters	unit	Minimum	Typical values	Maximum
Storage temperature	°C	0	-	70
Shell operating temperature	°C	5	-	70
Laser chip operating temperature ¹	°C	5	-	45
Laser series resistance	Ω	-	2	-
Forward voltage of the laser at LIV current	V	-	2	-
Nominal laser line width at LIV current	kHz	-	500	-
Beam divergence angle at half-height and full width ($\theta_{ } \times \theta_{\perp}$)	°	-	6 x 28	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/°C	-	0.06	-
Current tuning rate	nm/mA	-	0.002	-
Laser reverse voltage	V	-	-	0

If not sealed, it is not recommended to use below the dew point

Freespace Encapsulation add-on specifications

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	-

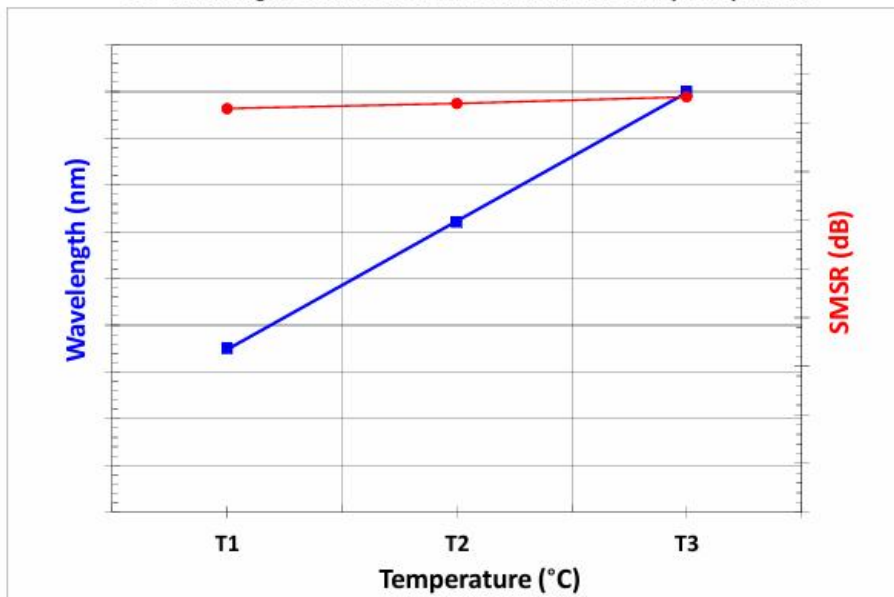
Handling Precautions

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

