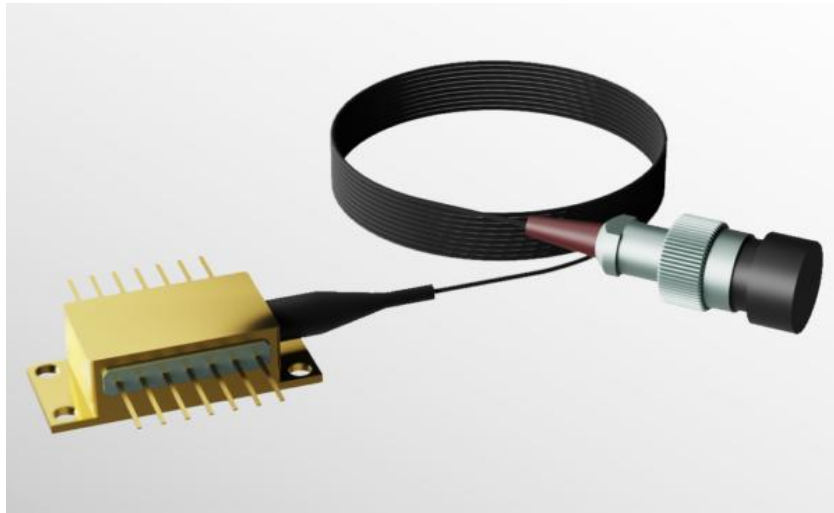


920nm DBR Laser Diode



● Product Description

The 920nm 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 920nm 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-920-160-14BF-PA

● Application area

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

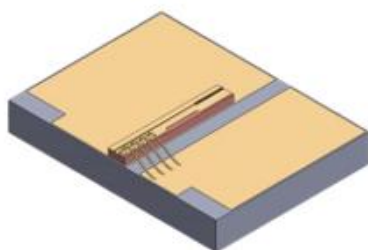
● Core parameters

Central Wavelength
920nm

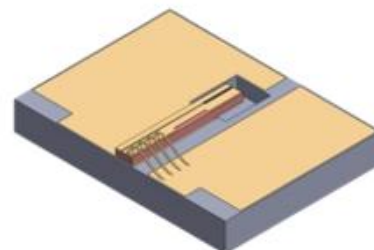
● General Parameters

Model Parameters

Detailed parameters



Chip on Submount (CoS)



CoS + Mode-Hop Free (MHF)

920nm (COS) package characteristics

Parameter ¹	Chip architecture	
	Low power	High power
Nominal wavelength (nm) ²	920±0.6	
Power range (mW)	80–240	
Maximum Operating Current (CW & Pulsed) (mA)	400	
Optical power at maximum operating current (mW)	240	
Nominal Slope Efficiency (W/A)	0.75	
Nominal threshold current (mA)	60	

1. Characteristics at TC = 25 °C unless otherwise specified. Operating outside of these parameters voids warranty.

2. Hermetically sealed packages may contain CoS that are ± 1.2 nm from nominal

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

1. Operation below dew point not recommended without hermetically sealed packaged

Freespace Encapsulation add-on specifications

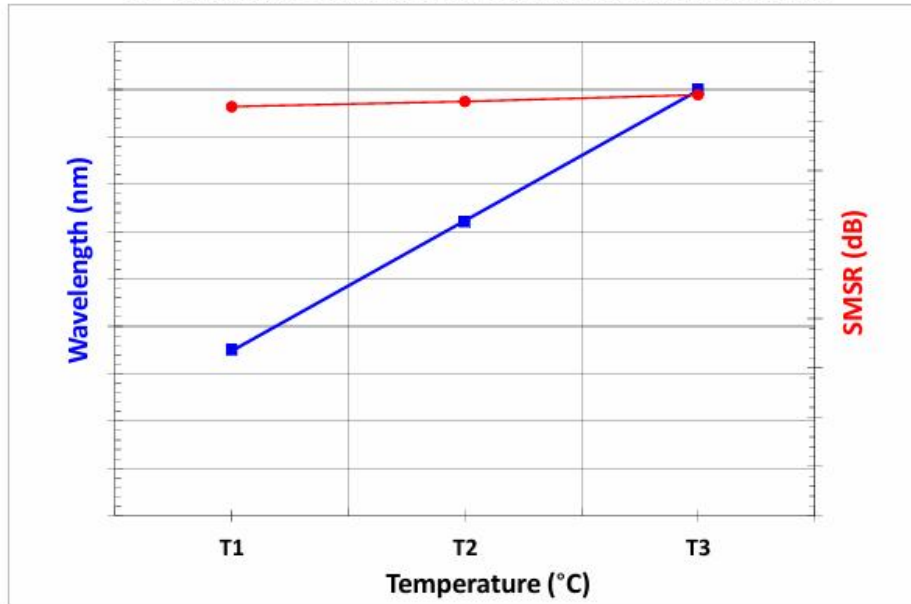
Parameters	unit	Minimum	Typical values	Maximum
Photodiode forward current	mA	-	-	10
Photodiode reverse voltage	V	-	-	50
TEC Current (TOSA)	A	-1.1	-	1.1
TEC Voltage (TOSA)	V	-3.0	-	3.0
TEC current TO-8	A	-1.8	-	1.8
TEC voltage TO-8	V	-2.2	-	2.2
Thermistors	k Ω	-	10	-

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

