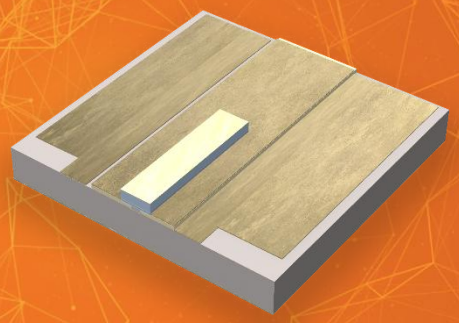
ML3303

780 nm DBR laser

ML3303 is a 780 nm Distributed Bragg Reflector single-frequency laser diode. It has a monolithic structure with separate gain and grating sections. The Bragg grating locks the emission to a single frequency.



This specification is valid for chip-on-submount. For other packaging options, such as TO-can, C-mount and butterfly, please send your inquiry to sales@modulight.com.

Recommended Operating Conditions

Parameter	Symbol	Min	Max	Unit
Submount Temperature	T_c	15	35	°C
Operating Current	I_{OP}	-	300	mA

Electro-Optical Characteristics

Unless otherwise indicated, the parameters given in the table below are valid for the whole operating temperature range.

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Peak Wavelength	λ_P	779.7	780.2	780.7	nm	T_c = 25°C
Laser Linewidth (FWHM)	$\Delta\lambda$	-	-	1000	kHz	
Side Mode Suppression Ratio	SMSR	40	45	-	dB	
Wavelength Temperature Coefficient	$d\lambda/dT$	-	0.05	-	nm/°C	
Wavelength Current Coefficient	$d\lambda/dI$	-	0.002	-	nm/mA	
Optical Output Power	P_{OP}	125	135	-	mW	I_{MAX}= 300 mA
Voltage	V_{OP}	-	2	2.2	V	I_{MAX}= 300 mA
Horizontal/Parallel Beam Divergence	θ_H	-	6	-	°	FWHM
Vertical/Perpendicular Beam Divergence	θ_V	-	27	-	°	FWHM
Mode Structure	TEM(00)					
Laser polarization	TM					

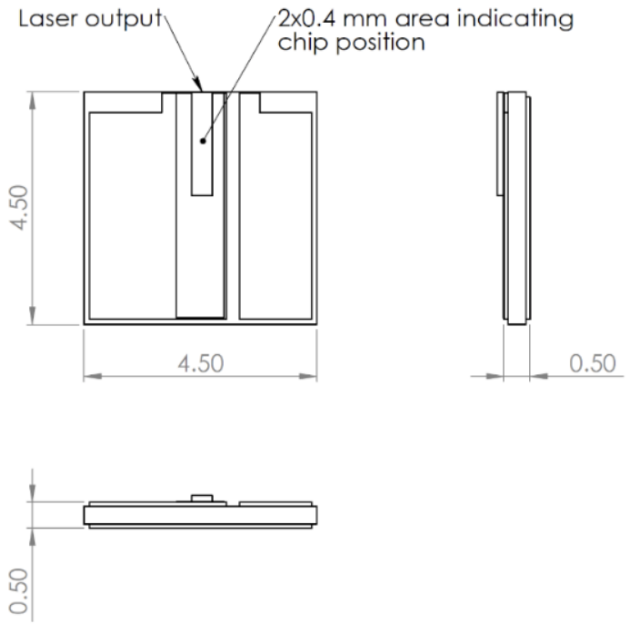
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Absolute Maximum Ratings

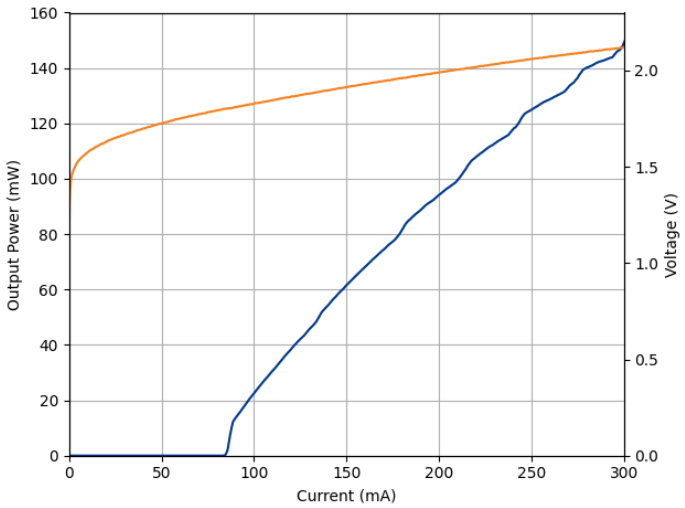
Values should not be exceeded in any conditions to avoid permanent device damage.

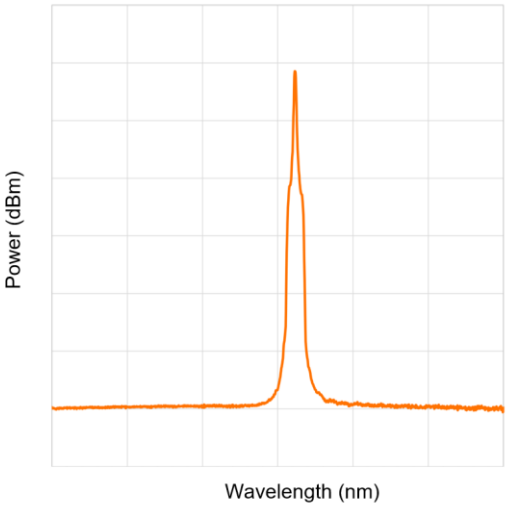
Parameter	Symbol	Min	Max	Unit
Submount temperature	TC	5	45	°C
Storage temperature	TS	5	60	°C
LD forward current	ILD	-	350	mA
LD reverse voltage	VRLD	-	0	V

Mechanical Specification



Typical Performance

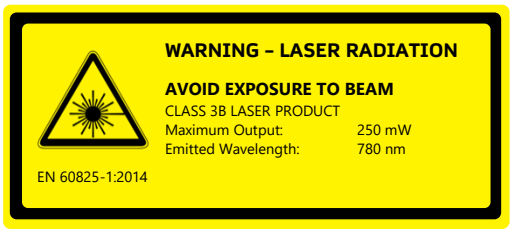




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Safety Information

- ❑ The laser light emitted from this laser diode is invisible and potentially harmful to the human eye. Avoid eye and skin exposure to the beam, both direct and reflected.
- ❑ Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Please ensure ESD protection prior to handling the products.
- ❑ These Modulight products are not intended for use in systems where product malfunction can reasonably be expected to result in personal injury.



Peak power and wavelength are for safety analysis only, not to present device performance.

Handling

- ❑ DBR laser diodes are sensitive to optical feedback, thus optical isolator may be required in order to reach the specified performance.
- ❑ Laser chips are sensitive both mechanically and electrically. Extreme care should be taken when handling the bare dies, in order to avoid any damage to laser facets and waveguide area.



- ❑ Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Please ensure ESD protection prior to handling the products.
- ❑ Electrostatic discharge may cause direct or latent damage to laser diodes. During laser handling, precautions for handling electrostatically sensitive devices must be observed. Please store the product in its original package until used.
- ❑ The laser light emitted from this laser diode is invisible and potentially harmful to the human eye. Avoid eye and skin exposure to the beam, both direct and reflected.

Liability note

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RoHS compliance

The product complies with EU RoHS 2 (Directive 2011/65/EU) and China RoHS II (Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products)