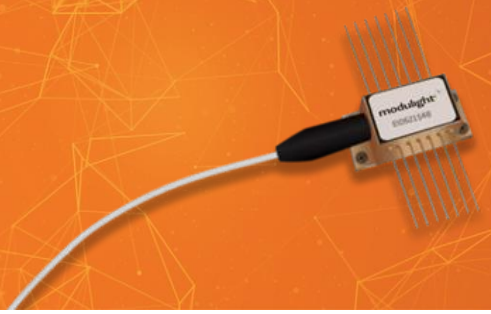
ML5073

633 nm high-power DBR 14-Pin Butterfly Package

Modulight's ML5073 is a 633 nm wavelength stabilized, high-power multi-mode DBR laser diode packaged in a hermetically sealed industry-standard 14-pin butterfly package. Product configuration options include free-space or fiber coupled output.



Applications

The product is well-suited to Raman spectroscopy and other applications where a narrow linewidth is required.

Electro-optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Central Wavelength	λ	631	633	635	nm
Side Mode Suppression Ratio	SMSR		35		dB
Laser Linewidth (FWHM)	Δλ		0.2		nm
Optical Output Power	P_{OPT}				
- Free-space (CW operation)			100		
- Fiber coupled (CW operation)			85		
- Free-space (pulsed operation)			220		mW
- Fiber coupled (CW operation)			185		
Operating Voltage	V_{OP}		2.3		V
Slope Efficiency	η		0.3		W/A
Threshold Current	I_{TH}				
- CW operation			600	700	mA
- Pulsed operation			500	600	mA
Mode structure	Multi-mode				
Polarization	TE				

If not otherwise stated, all above values are for TEC temperature 15°C and at P_{OPT}.

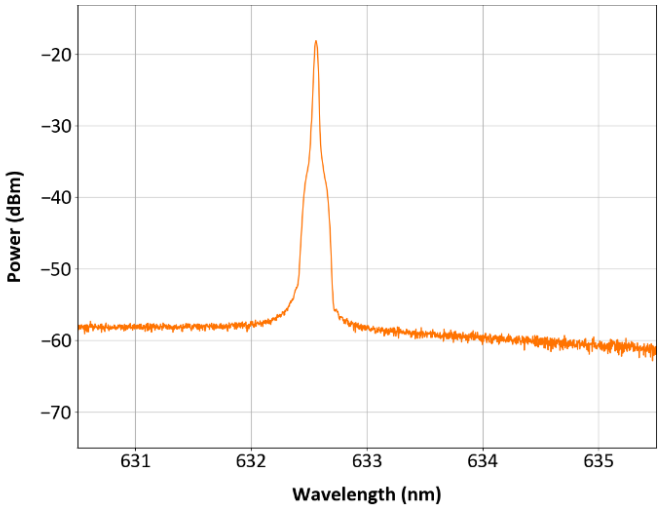
Recommended Operating Conditions

Conditions under which the parameters listed in "Opto-electrical characteristics" will be met.

Parameter	Symbol	Min	Max	Unit
Temperature at chip	T_c	15	20	°C
Operating Current	I_{OP}	-	1500	mA

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Typical Performance



Absolute Maximum Ratings

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

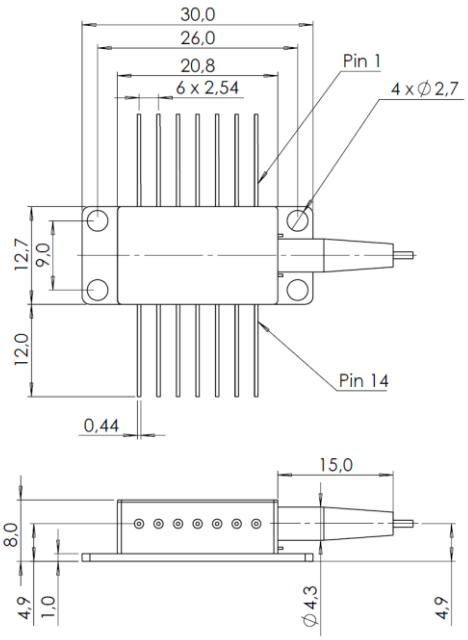
Parameter	Symbol	Min	Max	Unit
Case temperature	T_C	5	45	°C
Storage temperature	T_S	5	85	°C
LD forward current	I_{LD}	-	1500	mA
LD reverse voltage	V_{RLD}	-	0	V

Thermal Control Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
TEC Current	I_{TEC}			2.9	A
TEC Voltage	V_{TEC}			2.9	V
Thermistor Resistance @25°C	R_{th}	9900	10000	10100	Ω
Thermistor β Coefficient	β		3435		

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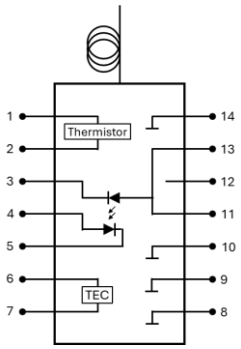
Mechanical Specification



All dimensions are millimeters (mm).

Pinout

Pin#	Function	Pin#	Function
1	Thermistor	8	Case
2	Thermistor	9	Case
3	LD (-)	10	Case
4	PD (+)	11	LD (+)
5	PD (-)	12	NC
6	TEC (+)	13	LD (+)
7	TEC (-)	14	Case



Safety Information

- ❑ The laser light emitted from this laser diode is visible 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.

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)

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