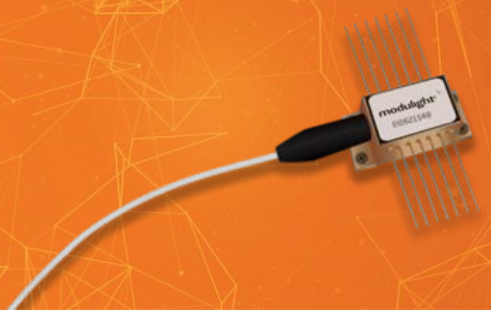
ML5060

785 nm DBR 14-Pin Butterfly Package

Modulight's ML5060 is a 785 nm single-frequency DBR laser diode packaged in a hermetically sealed industry-standard 14-pin butterfly package. Product configuration options include integrated optical isolation and 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	784	785	786	nm
Side Mode Suppression Ratio	SMSR		45		dB
Laser Linewidth (FWHM)	Δλ			2	MHz
Wavelength temperature coefficient	dλ/dT	-	0.05	-	nm/°C
Wavelength current coefficient	dλ/dI	-	0.002	-	nm/mA
Optical Output Power @ I_{OP}	P_{OPT}				
- Free-space			110		mW
- Free-space with isolator			55		
- Fiber-coupled			55		
- Fiber-coupled with isolator			25		
Operating Voltage @ I_{OP}	V_{OP}		1.9		V
Slope Efficiency	η		0.8		W/A
Threshold Current	I_{TH}		70	90	mA
Mode Structure	TEM(00)				
Polarization		TM			

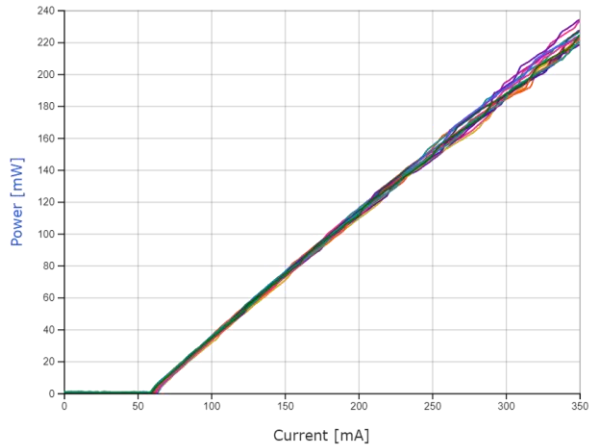
Recommended Operating Conditions

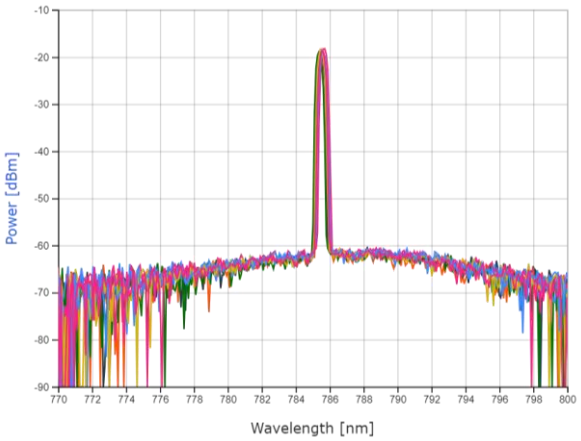
Conditions under which the parameters listed in "Opto-electrical characteristics" will be met.

Parameter	Symbol	Min	Max	Unit
Temperature at chip	T_c	15	30	°C
Operating Current	I_{OP}	-	200	mA

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Typical Performance





Absolute Maximum Ratings

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

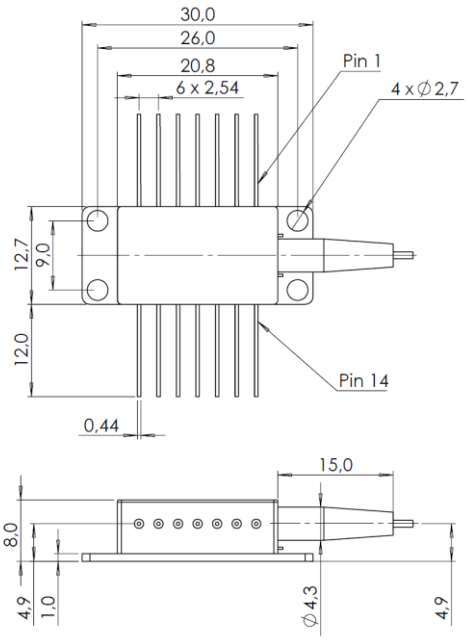
Parameter	Symbol	Min	Max	Unit
Case temperature	T_C	5	45	°C
Storage temperature	T_S	5	85	°C
LD forward current	I_{LD}	-	300	mA
LD reverse voltage	V_{RLD}	-	0	V

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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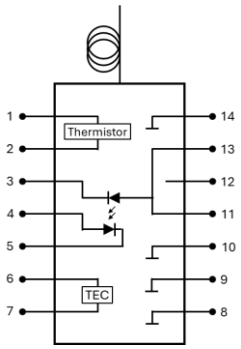
Mechanical Specification



All dimensions are millimeters (mm).

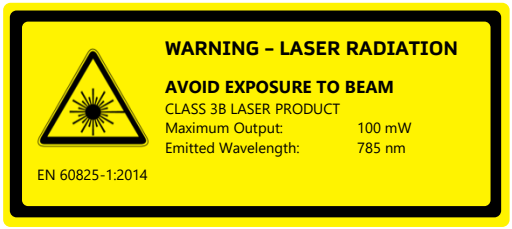
Pinout

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 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.

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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