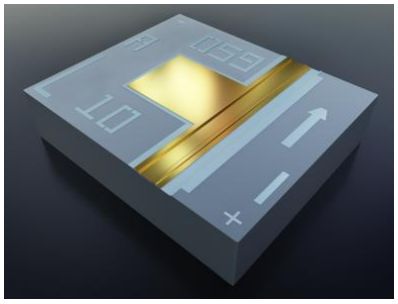
ML1931

1648 nm DFB Laser Diode for pulse applications

Overview

Modulight's ML1931 is a high-performance distributed feedback (DFB) laser diode chip. The bare die laser emits at 1648 nm wavelength and the emission wavelength is controlled by an internal grating. ML1931 has been designed for pulsed applications up to 10 µs pulse widths and 1 % duty cycle.



Applications

Defense	Industrial	Communications
Test & Measurement	Test & Measurement	Test & Measurement

Electro-optical Characteristics

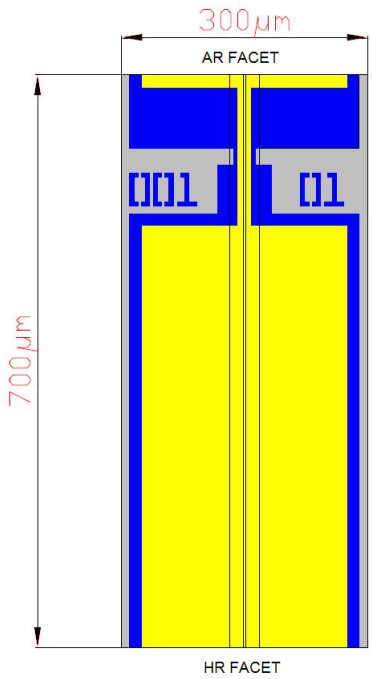
Parameter	Symbol	Min	Typical	Max	Unit
Central Wavelength	λ	1646	1650	1654	nm
Output Power	P_O	80	-	-	mW
Operating Current (P_{OP} = 80 mW)	I_{OP}	-	430	550	mA
Threshold Current	I_{TH}	-	45	100	mA
Slope Efficiency	η	-	0.18	-	W/A
Operating Voltage (P_{OP} = 30 mW, CW)	V_{OP}	-	1.4	1.9	V
Spectral Width	$\delta\lambda$	-	0.2	0.51	nm
Parallel Beam Divergence (FWHM)	$\theta\parallel$	-	11	15	°
Perpendicular Beam Divergence (FWHM)	$\theta\perp$	-	38	45	°
Side Mode Suppression Ratio (dB)	SMSR	-	-	-	dB

Unless otherwise noted, the above values represent operation @ 25°C with pulse current (PW = 1%/DC = 10 µs). All temperatures refer to case temperature, T_C.

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Optical Output Power	P_{OP}	100	mW
LD Reverse Voltage	V_{RLD}	2	V
LD Forward Current	I_{FLD}	800	mA
Operating Temperature	T_{OP}	15-25	°C
Storage Temperature	T_{STG}	-40…85	°C

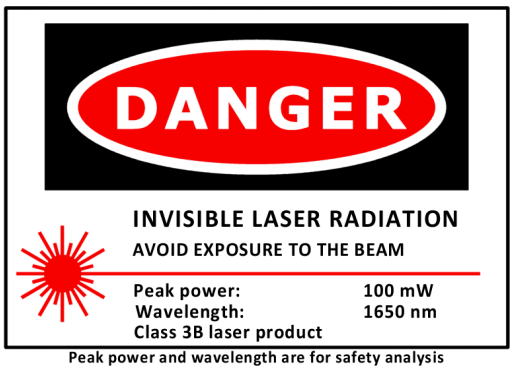
Mechanical Specification



Parameter	Symbol	Value	Unit
Cavity Length	L	700	µm
Chip Width	W	300	µm
Chip Thickness	H	100	µm
Top and bottomside outer Au metal layer	-	300	nm
Polarity	p-contact (anode) up		

Safety Information

- The laser light emitted from this laser device 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.

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