



Modulight, Inc.

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ML1008 TECHNICAL SPECIFICATION				
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TECHNICAL SPECIFICATION ML1008

1 OVERVIEW

Modulight's ML1008 is a high-performance single-mode 1550 nm bare die laser product. The laser emits >200 mW pulsed power (10 μ s PW, 1% DC) at 1550 nm wavelength. ML1008 is designed to be used as light source in fiber optic test and measurement equipment.

2 ORDERING INFORMATION

ML1008

3 ELECTRO-OPTICAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Optical power ¹	P _o	200	230	-	mW	T _c = 25°C, I _f = 750 mA
		-	185	-		T _c = 60°C, I _f = 750 mA
Threshold current ²	I _{th}	-	38	55	mA	T _c = 25°C
		-	55	-		T _c = 60°C
Forward voltage	V _{op}	-	1.15	2	V	CW, T _c = 25°C, P _{op} = 50 mW
Serial resistance		-	2	-	Ω	CW, T _c = 25°C, P _{op} = 50 mW
Slope efficiency ¹	η	-	0.32	-	W/A	T _c = 25°C, up to 200 mW
		-	0.24	-		T _c = 60°C, up to 200 mW
Central wavelength ¹	λ_c	1530	1550	1570	nm	T _c = 25°C, I _f = 750 mA
Spectral width ^{1,3}	$\Delta\lambda$	-	4.5	7	nm	T _c = 25°C, I _f = 750 mA
		-	4.5	-		T _c = 60°C, I _f = 750 mA
Perpendicular beam divergence angle (FWHM) ^{1,4}	θ_{\perp}	-	45	-	deg	I _f = 750 mA, PW = 10 μ s, DC = 1%
Parallel beam divergence angle (FWHM) ^{1,4}	θ_{\parallel}	-	22	-	deg	I _f = 750 mA, PW = 10 μ s, DC = 1%

4 ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
LD reverse voltage	V _{RLD}	2	V
LD forward current	I _{FLD}	1000 ⁵	mA
Lead soldering temperature (<10 s)	T _{SLD}	260	°C
Operating case temperature	T _c	-0-60°C	°C
Storage temperature	T _{STG}	-40-85°C	°C

¹ PW = 10 μ s, DC = 1%

² 1st derivative method

³ RMS, -20 dB

⁴ Full Width at Half Maximum

⁵ DC \leq 1%, PW \leq 10 μ s



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5 TYPICAL PERFORMANCE

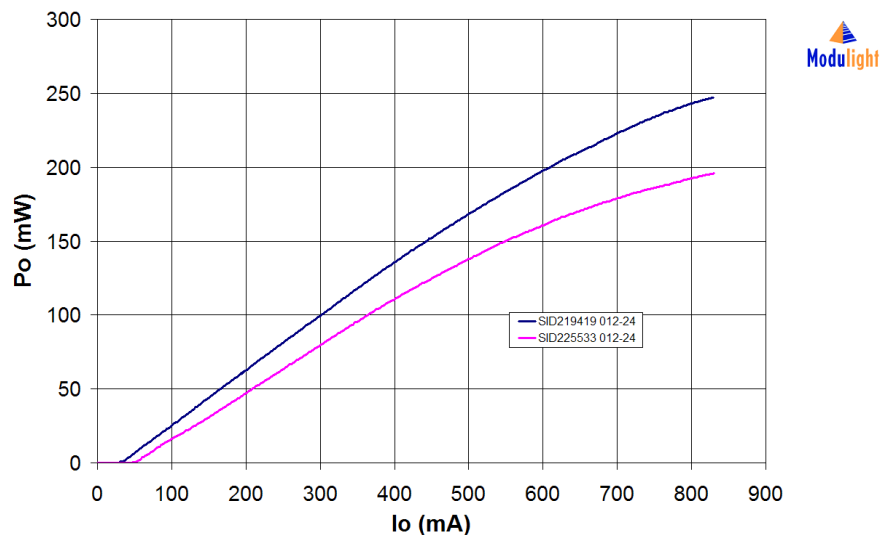


Figure 1. LI curve in pulsed (10 μ s PW, 1% DC) mode, 25°C (blue) and 60°C (magenta) fixture temperatures.

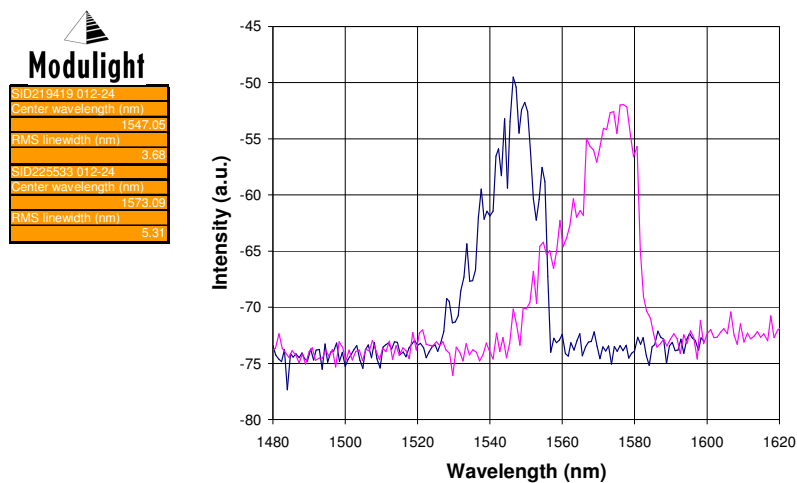


Figure 2. Example Spectra, pulsed (10 μ s PW, 1% DC) mode, 25°C (blue) and 60°C (magenta) fixture temperatures.

6 SAFETY INFORMATION

- The laser light emitted from this laser diode is invisible and may be harmful to the human eye. Avoid eye exposure to the beam, both direct and reflected.



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- Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Please take care of proper 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 do not present device performance

7 LIABILITY NOTE

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