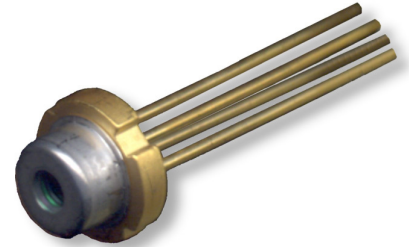


ML1345

1550 nm FP pulsed TO-can laser

Overview

ML1345 is a high-performance single-mode 1550 nm laser in a TO-56 can with flat window. The laser emits >200 mW pulsed power (10 μ s PW, 1% DC) at 1550 nm wavelength. ML1345 is designed to be used as light source in fiber optic test and measurement equipment.



Applications

Communications

Test and measurement

Electro-optical Characteristics

Parameter	Symbol	Min	Typical value	Max	Unit	Test condition
Optical power ²	P _o	200	230	-	mW	T _c = 25°C, I _f = 750 mA
	P _o	-	185	-	mW	T _c = 60°C, I _f = 750 mA
Threshold current ³	I _{th}	-	38	55	mA	T _c = 25°C
	I _{th}	-	55	-	mA	T _c = 60°C
Forward voltage	V _{op}	-	1.15	1.9	V	cw, T _c = 25°C, Pop = 50 mW
Serial resistance		-	1.8	-	Ω	cw, T _c = 25°C, Pop = 50 mW
Slope efficiency ²	η	-	0.32	-	W/A	T _c = 25°C, up to 200 mW
	η	-	0.24	-	W/A	T _c = 60°C, up to 200 mW
Central wavelength ²	λ_c	1530	1550	1570	nm	T _c = 25°C, I _f = 750 mA
Spectral width ^{Error! Bookmark not defined.,4}	$\Delta\lambda$	-	4.5	7	nm	T _c = 25°C, I _f = 750 mA
	$\Delta\lambda$	-	4.5	-	nm	T _c = 60°C, I _f = 750 mA
Perpendicular beam divergence angle (FWHM) ^{Error! Bookmark not defined.,5}	θ_{\perp}	-	45	-	deg	I _f = 750 mA, PW = 10 μ s, DC = 1%
Parallel beam divergence angle (FWHM) ^{Error! Bookmark not defined.,Error! Bookmark not defined.}	θ_{\parallel}	-	22	-	deg	I _f = 750 mA, PW = 10 μ s, DC = 1%

¹ All temperatures refer to case temperature, T_c = 25°C

² PW = 10 μ s, DC = 1%

³ 1st derivative method

⁴ RMS, -20 dB

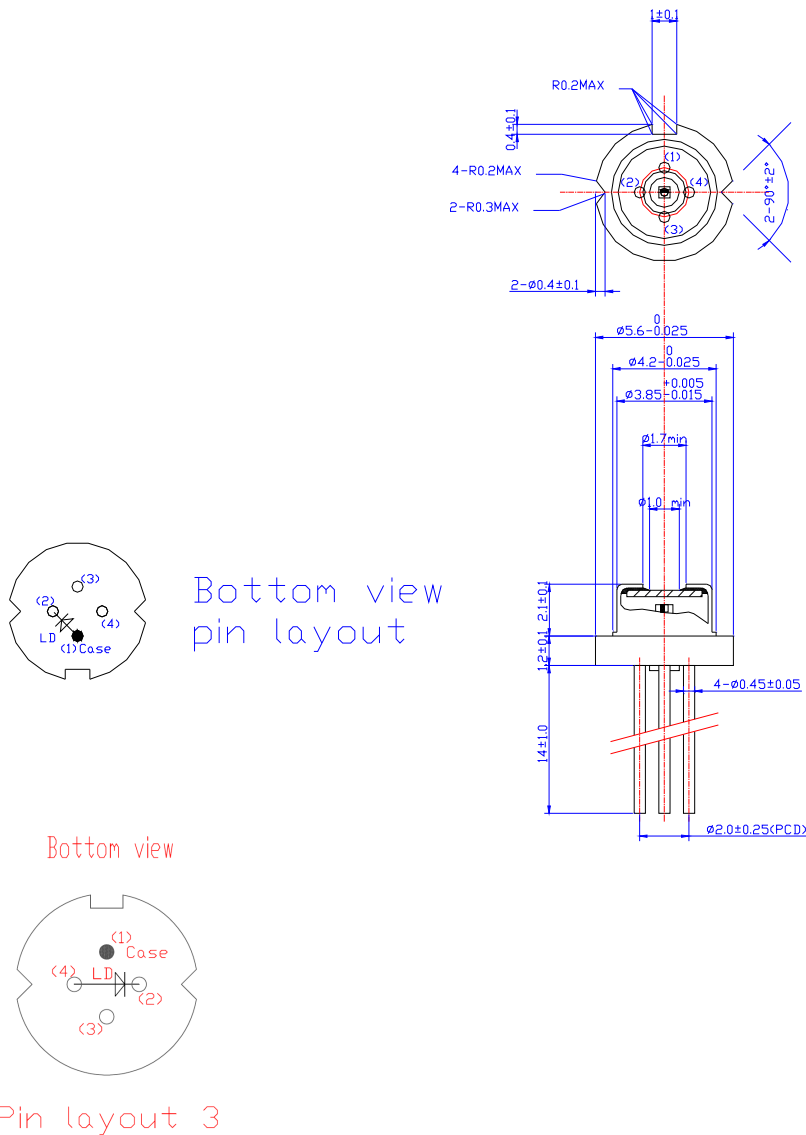
⁵ Full Width at Half Maximum

⁶ DC ≤ 1%, PW ≤ 10 μs

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
LD reverse voltage	V _{RLD}	2	V
LD forward current	I _{FLD}	1200 ⁶	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

Mechanical Specification and PIN layout



Typical performance

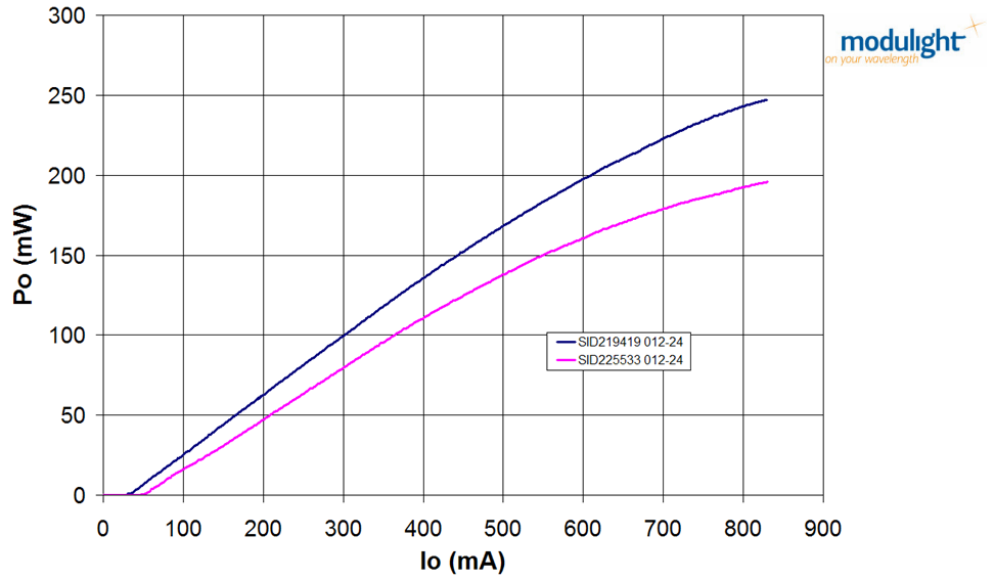


Figure 1. Chip-level LI curve in pulsed (10 μs PW, 1% DC) mode, 25°C (blue) and 60°C (magenta) fixture temperatures

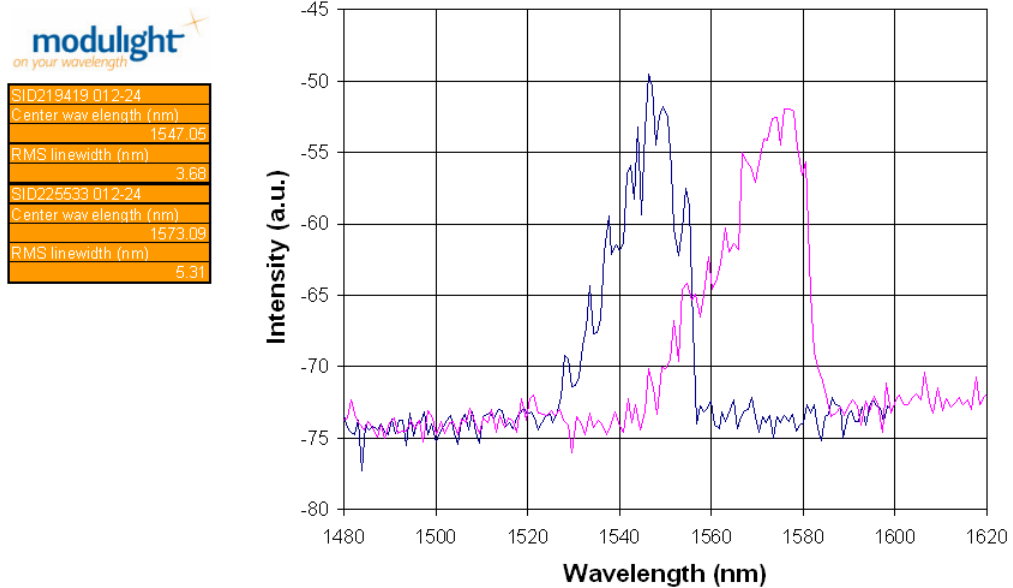


Figure 2. Chip-level LI curve in pulsed (10 μs PW, 1% DC) mode, 25°C (blue) and 60°C (magenta) fixture temperatures

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.



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