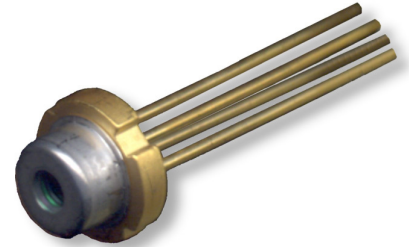


# ML1344

1310 nm FP pulsed TO-can laser

## Overview

ML1344 is a high-performance single-mode 1310 nm laser in a TO-56 can with flat window. The bare die laser emits >300 mW pulsed power (750 mA, 10  $\mu$ s PW, 1% DC) at 1310 nm wavelength. ML1344 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 <sup>1</sup>	P <sub>o</sub>	300	320	-	mW	T <sub>c</sub> = 25°C, I <sub>f</sub> = 750 mA
	P <sub>o</sub>	-	260	-	mW	T <sub>c</sub> = 60°C, I <sub>f</sub> = 750 mA
Threshold current <sup>2</sup>	I <sub>th</sub>	-	33	50	mA	T <sub>c</sub> = 25°C
	I <sub>th</sub>	-	48	-	mA	T <sub>c</sub> = 60°C
Forward voltage	V <sub>op</sub>	-	1.3	1.9	V	cw, T <sub>c</sub> = 25°C, Pop = 50 mW
Serial resistance		-	2.2	-	$\Omega$	cw, T <sub>c</sub> = 25°C, Pop = 50 mW
Slope efficiency <sup>1</sup>	$\eta$	-	0.47	-	W/A	T <sub>c</sub> = 25°C, up to 300 mW
	$\eta$	-	0.35	-	W/A	T <sub>c</sub> = 60°C, up to 300 mW
Central wavelength <sup>1</sup>	$\lambda_c$	1290	1310	1330	nm	T <sub>c</sub> = 25°C, I <sub>f</sub> = 750 mA
Spectral width <sup>1,3</sup>	$\Delta\lambda$	-	4	7	nm	T <sub>c</sub> = 25°C, I <sub>f</sub> = 750 mA
	$\Delta\lambda$	-	4	-	nm	T <sub>c</sub> = 60°C, I <sub>f</sub> = 750 mA
Perpendicular beam divergence angle (FWHM) <sup>1,4</sup>	$\theta_{\perp}$	-	34	-	deg	I <sub>f</sub> = 750 mA, PW = 10 $\mu$ s, DC = 1%
Parallel beam divergence angle (FWHM) <sup>1,4</sup>	$\theta_{\parallel}$	-	30	-	deg	I <sub>f</sub> = 750 mA, PW = 10 $\mu$ s, DC = 1%

<sup>1</sup> PW = 10  $\mu$ s, DC = 1%

<sup>2</sup> 1<sup>st</sup> derivative method

<sup>3</sup> RMS, -20 dB

<sup>4</sup> Full Width at Half Maximum

<sup>4</sup> Operation in excess of any one of these parameters may result in permanent damage.

<sup>4</sup> DC  $\leq$  1%, PW  $\leq$  10  $\mu$ s



Typical performance

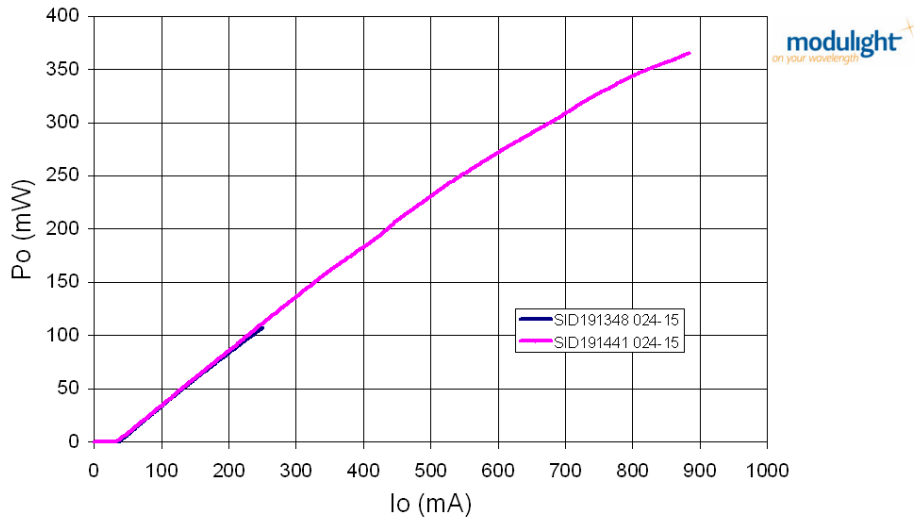


Figure 1. Chip-level LI curve in CW mode (blue) and pulsed (10  $\mu$ s PW, 1% DC) mode (cyan), 25°C fixture temperature

modulight <sup>+</sup> on your wavelength	
SID192730 003-21	
Center wav elength (nm)	1302.68
RMS linewidth (nm)	3.74
SID193876 003-21	
Center wav elength (nm)	1322.51
RMS linewidth (nm)	3.70

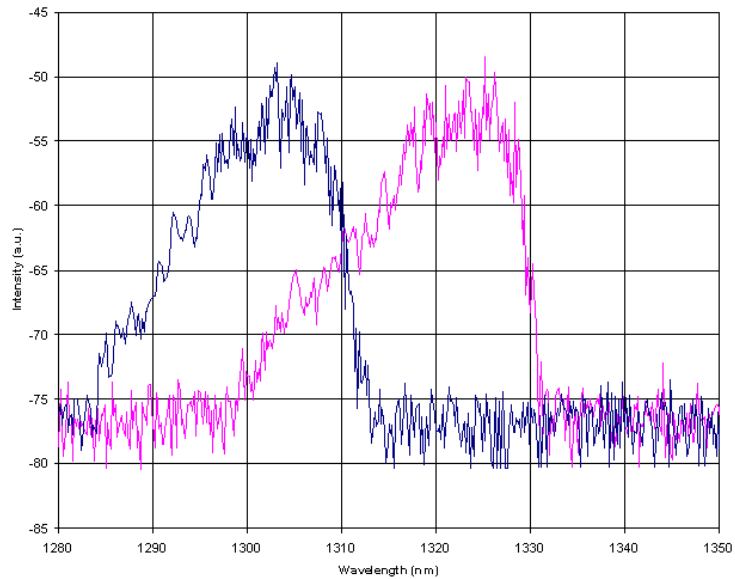


Figure 2 Chip-level spectral measurement, pulsed (10  $\mu$ s PW, 1% DC) mode, 25°C (blue) and 60°C (cyan) fixture temperature

### 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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