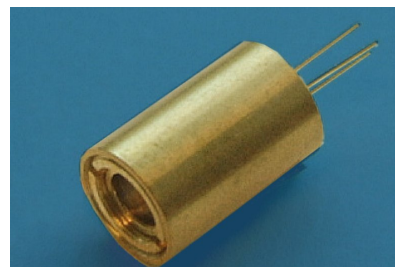


## ML1794

635 nm, 300 mW collimated high-power laser

### Overview

Part of Modulight's ChiliLase product range, ML1794 is a high-performance multi-mode 635 nm collimated laser module. The laser is based on a 9-mm TO-can, which is covered by collimating optics. The laser device is designed to withstand CW operation. Due to the inherent thermal sensitivity of this laser product, adequate active cooling must be ensured during operation.



### Applications

#### Industrial

Illumination  
Imaging

#### Medical

Low-intensity laser therapy  
Photodynamic therapy

### Electro-optical Characteristics

Parameter	Symbol	Typical value	Unit
Peak Wavelength	$\lambda$	633 ± 2	nm
Optical Output Power (peak power)	$P_{OPT}$	300	mW
Operating Current	$I_{OP}$	1050	mA
Operating Voltage	$V_{OP}$	2.3	V
Slope Efficiency	$\eta$	0.67	W/A
Threshold Current	$I_{TH}$	300	mA
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.2	nm/K
Spectral Width	$\delta\lambda$	1	nm
Parallel Beam Divergence (FWHM)	$\theta_{  }$	2	mrad
Perpendicular Beam Divergence (FWHM)	$\theta_{\perp}$	10	mrad
Emitter Width	$W_E$	150	$\mu\text{m}$

All values are typical for CW operation @ 15°C.

### Absolute Maximum Ratings

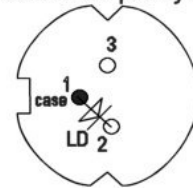
Parameter	Symbol	Rating	Unit
LD Reverse Voltage	$V_{RLD}$	0	V
LD Forward Current	$I_{FLD}$	1500	mA
Operating Temperature	$T_{OP}$	5...20 <sup>1</sup>	°C
Storage Temperature	$T_{STG}$	-40...85	°C

<sup>1</sup> A non-condensing environment should be ensured over the useful temperature range.

### Package Information

The laser is housed inside a standard 9-mm TO-can (SOT-148), covered by collimating optics. The size of the emitting area of the laser die is  $150 \times 1 \mu\text{m}$ . More specific package information is available per request - please contact Modulight sales team.

Bottom view - pin layout



### Safety Information

- The laser light emitted from this laser diode is visible and may be 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

This document is sole property of Modulight, Inc. No part of this document may be copied without written acceptance of Modulight, Inc. All statements related to the products herein are believed to be reliable and accurate. However, the accuracy is not guaranteed and no responsibility is assumed for any inaccuracies or omissions. Modulight, Inc. reserves the right to make changes in the specifications at any time without prior notice.