

## ML1470

1550 nm, 400 mW high-power laser in 9 mm TO-can

### Overview

A part of Modulight's RangerLase product family, ML1470 is a high-performance multi-mode 1550 nm laser designed for applications requiring high-power laser radiation at eye-safe wavelengths. The laser is housed in a 9-mm TO-can (SOT-148) covered by a flat window. The laser device is designed to withstand CW operation. Due to the inherent thermal sensitivity of this laser product, proper cooling must be ensured during operation.



### Applications

Defense	Industrial	Medical
Eye-safe range-finding Illumination	Materials processing Optical pumping	Low-intensity laser therapy Aesthetic Treatments

### Electro-optical Characteristics

Parameter	Symbol	Typical value	Unit
Peak Wavelength	$\lambda$	1560 ± 20	nm
Optical Output Power (peak power)	$P_{OPT}$	400	mW
Operating Current	$I_{OP}$	2	A
Operating Voltage	$V_{OP}$	1.8	V
Slope Efficiency	$\eta$	> 0.28	W/A
Threshold Current	$I_{TH}$	< 0.7	A
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.6	nm/K
Spectral Width	$\delta\lambda$	9	nm
Parallel Beam Divergence (FWHM)	$\theta_{  }$	7	°
Perpendicular Beam Divergence (FWHM)	$\theta_{\perp}$	33	°
Emitter Width	$W_E$	100	μm

All values are typical for CW operation @ 20°C.

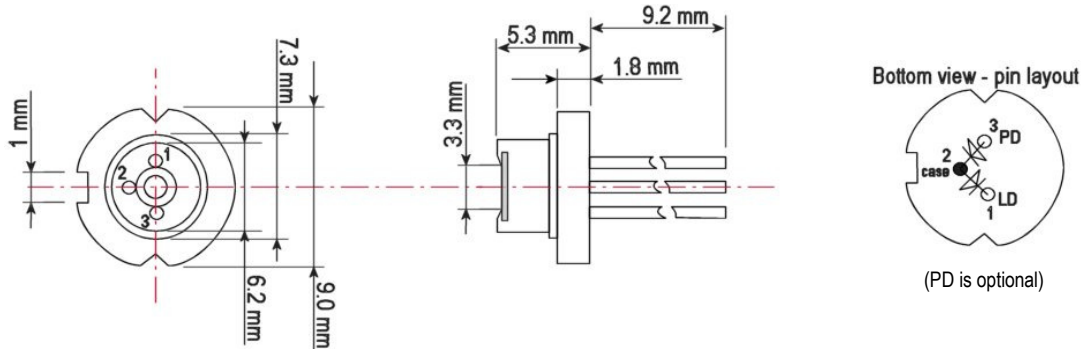
### Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
LD Reverse Voltage	$V_{RLD}$	2	V
LD Forward Current	$I_{FLD}$	3.5	A
Operating Temperature	$T_{OP}$	0...30 <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 default package of the red lasers is a 9 mm TO-can package (SOT-148). The most important dimensions are shown in the drawing below. Monitor photodiode and collimation optics can be included in all the 9 mm TO-can packages per customer request - please contact Modulight sales team for more information.



### Safety Information

- The laser light emitted from this laser diode is invisible and 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.



### Liability note

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