3.40 µm Interband Cascade Laser, 30 mW

IF3400T1

Description

The IF3400T1 is a single-spatial-mode, Fabry-Perot interband cascade laser (ICL) contained in a TO-9 package, designed and manufactured by Thorlabs. This laser operates in continuous wave (CW) mode at room temperature. The IF3400T1 is an environmentally-sealed module with three pins for electrical connection. The TO can does not contain a monitor photodiode. The emitting surface is protected by an AR-coated Sapphire window, and the output beam is divergent. This semiconductor laser is a compact light source suited to many applications.

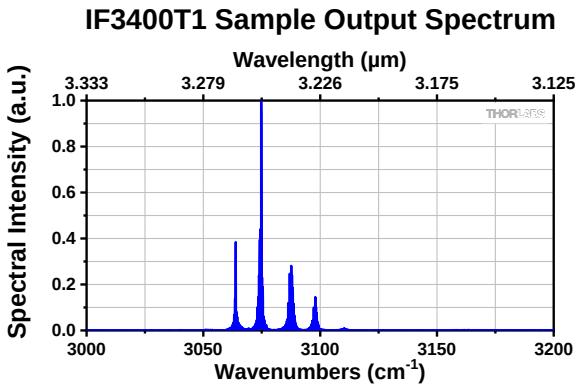
Specifications

IF3400T1	
LD Reverse Voltage (Max)	1 V
PD Reverse Voltage (Max)	N/A
Absolute Max Current	1 A[a]
Absolute Max Power	200 mW
Operating Temperature	15 to 50 °C[b]
Storage Temperature	0 to 85 °C[b]

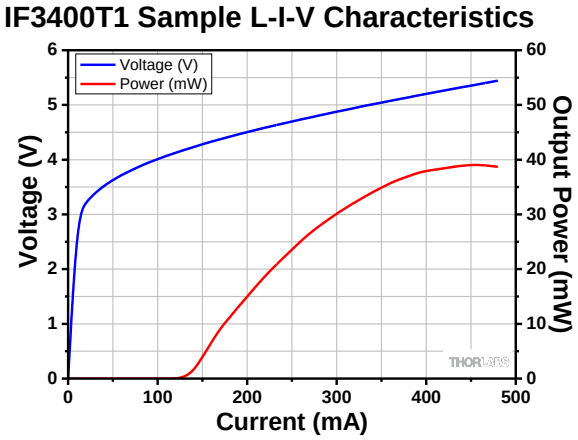
a. The maximum current for each device may be lower than this value and is specified on a device-by-device basis.
b. Non-Condensing Environment

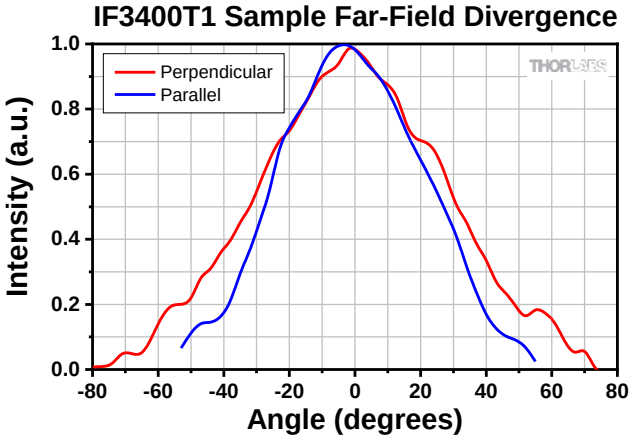
IF3400T1, T = 25 °C, CW Current Operation				
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength at Operating Power	λ	3.15 µm	3.40 µm	3.65 µm
Output/Operating Power	P_{out}	30 mW	-	-
Operating Current	I_{op}	-	300 mA	600 mA
Threshold Current	I_{TH}	-	150 mA	-
Forward Voltage	V_F	-	4 V	6 V
Perpendicular Beam Divergence Angle (FWHM)	$\theta_\perp$	-	70°	-
Parallel Beam Divergence Angle (FWHM)	$\theta_\parallel$	-	40°	-

Sample Performance Plots



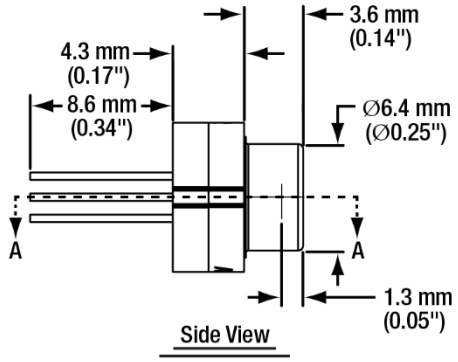
All values are measured at 25 °C. The spectrum above shows the fine structure of the Fabry-Perot modes. Please note that the resolution bandwidth of this measurement is 0.125 cm^{-1} (3.75 GHz).

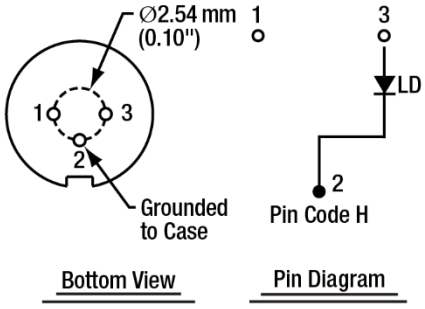


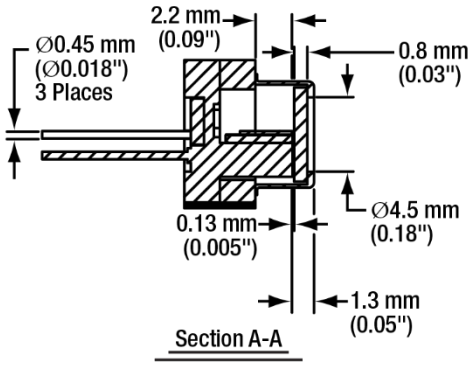


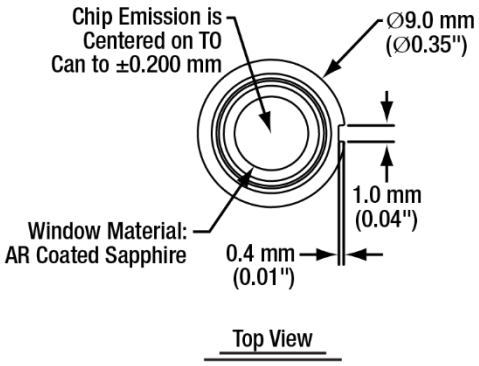
All values are measured at 25 °C.

Drawings


3.6 mm
(0.14")
4.3 mm
(0.17")
8.6 mm
(0.34")
Ø6.4 mm
(Ø0.25")
A
A
1.3 mm
(0.05")
Side View


Ø2.54 mm
(0.10")
1
3
2
Grounded
to Case
Bottom View
3
LD
2
Pin Code H
Pin Diagram


2.2 mm
(0.09")
Ø0.45 mm
(Ø0.018")
3 Places
0.8 mm
(0.03")
Ø4.5 mm
(0.18")
0.13 mm
(0.005")
1.3 mm
(0.05")
Section A-A


Chip Emission is
Centered on TO
Can to ±0.200 mm
Ø9.0 mm
(Ø0.35")
1.0 mm
(0.04")
Window Material:
AR Coated Sapphire
0.4 mm
(0.01")
Top View