763 nm, 0.5 mW VCSEL Laser Diode

L763VH1

Description

L763VH1 is a 763 nm, 0.5 mW AlGaAs VCSEL diode designed to meet the characteristics of a single longitudinal wavelength, a single spatial mode and a circular beam profile. It is packaged into a TO-46 package with an H pin configuration. It is designed as a spectral stability light source with low power dissipation and linear polarization. It is widely used in time-resolved fluorescence spectroscopy and O_2 gas sensing applications.

Specifications

Absolute Maximum Ratings[a]	
LD Reverse Voltage (Max)	2 V
Absolute Max Output Power	1.0 mW
Absolute Max Current	3 mA
Absolute Max Voltage	2.5 V
Storage Temperature	-10 to 65 °C
Pin Code	H

a. Absolute maximum rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.

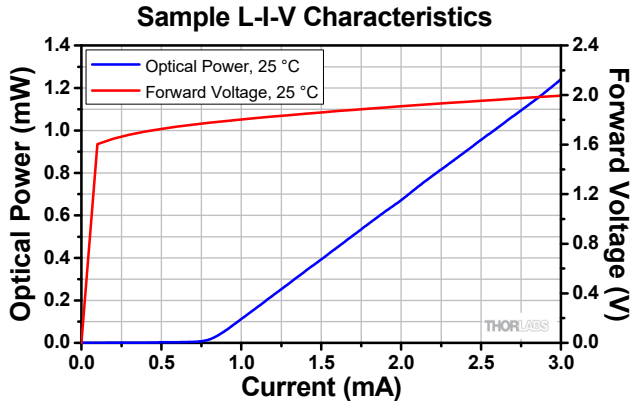
L763VH1[a]				
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength	λ_C	762 nm	763 nm	764 nm
Output Power	P_{CW}	-	0.5 mW	-
Threshold Current	I_{th}	-	1 mA	-
Operating Current	I_{OP}	-	-	3 mA
Slope Efficiency	$\Delta P/\Delta I$	-	0.35 W/A	-
Forward Voltage	V_F	-	2.0 V	2.5 V
Beam Divergence (Full Width $1/e^2$ @ I_{op})	θ	-	10°	25°
Operating Case Temperature[b]	T_{case}	20 °C	-	50 °C

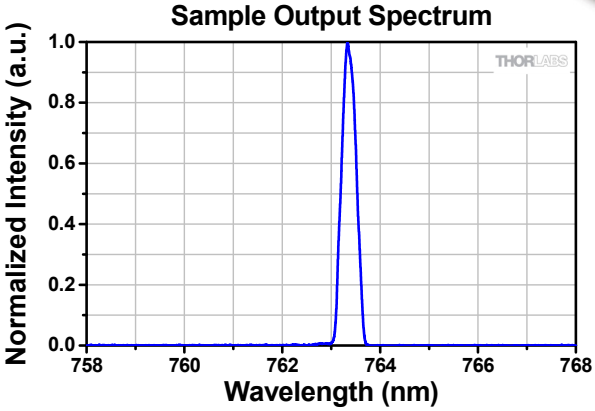
a. T_{chip} = 25 °C

b. The Operating Case Temperature should remain in this range to provide wavelength stability at the chosen operating wavelength.

Typical Performance Plots

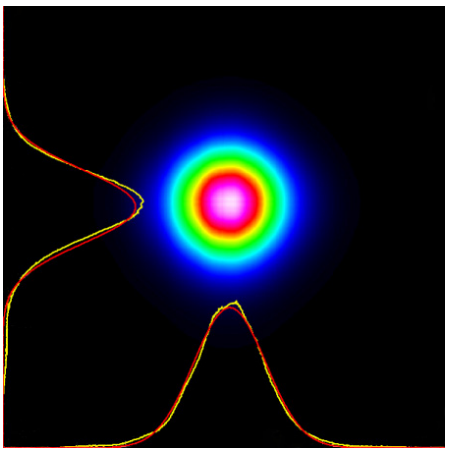
The data below was measured at 25 °C.





To preserve long-term reliability, do not exceed a Current of 3.0 mA or an Optical Power of 1.0 mW, whichever is reached first.

Beam Profile at 2.5 mA



Drawing