

Product Specification

808nm 5W CW VCSEL Laser Diode

LD0808-C005

PRODUCT FEATURES

- 808nm Multimode VCSEL
- High Efficiency (WPE), >35% @50C
- Oxide Isolation Technology
- Modulation bandwidth >1Gbps

APPLICATIONS

- 3D Imaging
- Gesture Recognition
- Laser Illumination
- Medical applications
- Broadband access network
- Pump

PRODUCT IDENTITY

Part Number	Description
LD0808-C005	808nm VCSEL LD

I. Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to +85°C
Case Operating Temperature	0 to 60°C
Relative Humidity	5% to 90%
Reverse Power Supply Voltage	5V
Maximum continuous forward current	6A
ESD Exposure (Human Body Model)	1KV ¹

Notice

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

Notice

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

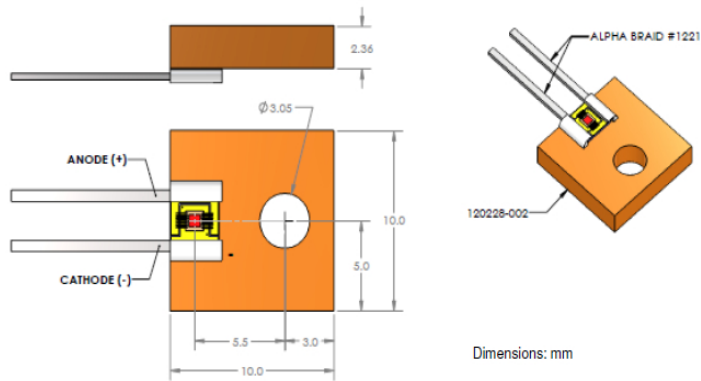
II. Electro-Optical Characteristics (Top 25 deg C unless otherwise stated)

VCSEL Parameters	Test Condition	Symbol	Min.	Typ.	Max	Units	Notes
Optical Power Output	$I_F=5.0A$	P_o	4.5	5		W	2
Threshold Current		I_{TH}		800		mA	
Slope Efficiency	$P_o =5W$	η		1.1		mW/mA	3
Wall Plug Efficiency	$I_F=5.0A$			40		%	
Emission Area				1100x1100		um	
Peak Wavelength	$I_F=5.0A$	λ_P		808		nm	
Laser Forward Voltage	$I_F=5.0A$	V_F		-		V	
Series Resistance	$I_F=5.0A$	R_S		0.16		Ohms	
Beam Angle	$I_F=5.0A$			20		Degrees	

Notes:

1. Reliability is a function of temperature.
2. For the purpose of these tests, I_F is DC current.
3. Slope efficiency is defined as $\Delta P_O/\Delta I_F$.

III. Mechanical Specifications



IV. Environmental Specifications

Parameter	Symbol	Min	Typ	Max	Units	Ref.
Case Operating Temperature	T _{op}	0		60	°C	
Storage Temperature	T _{sto}	-40		85	°C	

V. Regulatory Compliance

Feature	Agency	Standard
Laser Eye Safety	FDA/CDRH	CDRH 21 CFR 1040 and Laser Notice 50

VI. Revision History

Revision	Date	Description
Rev1	01/07/2014	First version created.