



PL204

Description

The PL204 laser is a compact, collimated laser diode module that produces an output beam with a circularized beam shape.

The module can be powered by a user-supplied 5 V power supply, which must be connected to the bare wire leads by the user. The red wire is the 5 VDC input wire.

The compact lasers come in an Ø11 mm housing that is electrically isolated. The color at the end of the laser module indicates the wavelength color. Each laser module is shipped with a test datasheet that includes the lasing spectrum and measured output power.

Specifications

Optical and Electrical Specifications ^a			
	Min	Typical	Max
Wavelength	630 nm	635 nm	643 nm
Output Power	0.8 mW	0.9 mW	<1.0 mW
Polarization Extinction Ratio	-	20 dB	-
Power Stability (8 Hours)	-	-	2%
Power Stability (1 Minute)	-	-	0.5%
Axis Deviation ^b	-	-	5 mrad
Beam Diameter ^c	-	3.0 mm	-
Beam Divergence ^d	-	-0.6 mrad	-
Operating Voltage	4.9 V	-	5.2 V
Operating Current	-	60 mA	80 mA

a. At 25 ± 0.2 °C Ambient Temperature and after a 15 Minute Warm Up

b. Angular Deviation between Housing and Output Beam

c. D4σ Beam Width at 50 mm Distance from Aperture

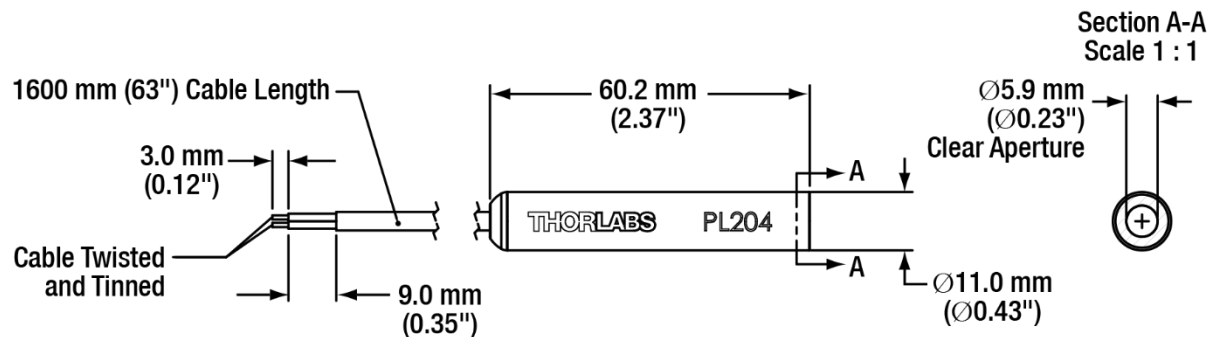
d. Full-Angle Divergence, D4σ Beam Width

General Specifications	
Laser Safety Class	Class 2
Housing Material	Aluminum, Black Anodized
Housing Dimensions	Ø11.0 mm x 60.2 mm
Beam Shape	Round ^a
Operating Temperature	0 to 40 °C, Non-Condensing
Storage Temperature	-30 to 70 °C
Typical Lifetime	1000 h ^b

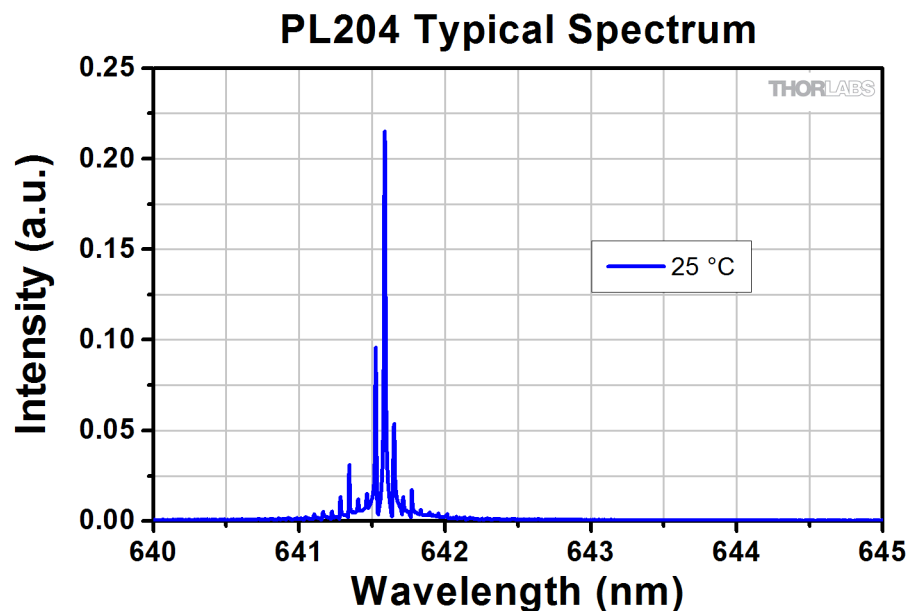
a. The laser is geometrically restricted to a round beam with a non-Gaussian intensity profile.

b. Measured at 40 °C

Drawing



Typical Performance Plot



Maintenance and Service

This product is not water resistant and must be protected from adverse weather conditions. To avoid damage, do not expose it to sprays, liquids, or solvents. This product does not contain any parts serviceable by the user and does not require regular user maintenance. Do not open the enclosure. If a malfunction occurs, contact Thorlabs for return instructions.

Precautions

These products are electrostatic discharge (ESD) sensitive. In order to ensure the proper functioning of a laser diode, care must be given to maintain the highest standards of compliance to the maximum electrical specifications when handling such devices. The laser diodes are particularly sensitive to any voltage that exceeds the absolute maximum ratings of the product. Any applied voltage in excess of the maximum specification will cause damage to and possible complete failure of the product. The user must use handling procedures that prevent any electrostatic discharges or other voltage surges when handling or using these devices.

Warnings and Safety

All statements regarding safety of operation and technical data only apply when the unit is operated correctly according to its specifications. The safety of any system incorporating the equipment is the responsibility of the assembler of the system. It is the full responsibility of the user to ensure safety. This includes but is not limited to laser safety. The device must not be operated in explosion-endangered environments!

Inappropriate use of any laser product may result in permanent eye damage. These lasers fall under the Laser Class given in the General Specifications table.

Laser Radiation Warning Statement

Laser Radiation: DO NOT STARE INTO BEAM; CLASS 2 LASER PRODUCT

