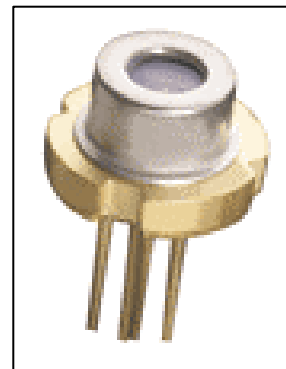


810nm/150mW Circular Beam Laser Diode

CircuLaser™ Laser Diode

Circular beam with diffraction-limited performance and low divergence in a standard package

- 150mW Kink-free Optical Power
- Built-in Monitor Photodiode
- Circular, diverging beam with μ Lens™ technology
- Numerical Aperture (NA) ~0.11
- Aberration ~1/4 peak to valley
- Fabry-Perot index-guided, Single-mode Laser Diode
- Hermetically sealed package
- Standard 9mm package



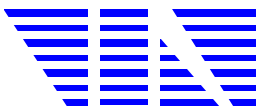
Absolute Maximum Ratings (case temperature = 25°C)

Parameter	Symbol	Minimum	Maximum	Unit
Optical Output Power	P_o	-	150	mW
LD Reverse Voltage	V_R (LD)	-	3	V
PD Reverse Voltage	V_R (PD)	-	25	V
Operating Temperature	T_{opr}	-10	+50	°C
Storage Temperature	T_{stq}	-40	+80	°C

Optical and Electrical Characteristics (case temperature = 25°C)

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Test Conditions
Threshold Current	I_{th}	-	35	45	mA	
Operating Current	I_{op}	-	210	230	mA	$P_o = 150mW$
Operating Voltage	V_{op}	-	2.3	2.8	V	$P_o = 150mW$
Optical Output Power	T_{opr}	-	-	150	mW	CW, kink-free
Slope Efficiency	η	0.75	0.85	-	mW/mA	$P_o = 150mW$
Wavelength	λ	804	809	813	nm	$P_o = 150mW$
Circularity	ϕ		-	1.2:1.0	Ratio	$P_o = 150mW$
Beam Divergence	$\theta_{//}$	-	9	-	Deg	$P_o = 150mW$, FWHM
Off axis Angle	$\Delta\theta$	-	-	± 3	Deg	
Monitor Current	I_s	0.1	-	20	mA	$P_o = 150mW$ V_R (PD)=5V
Astigmatism	A_s	-	-	0.25	Waves	

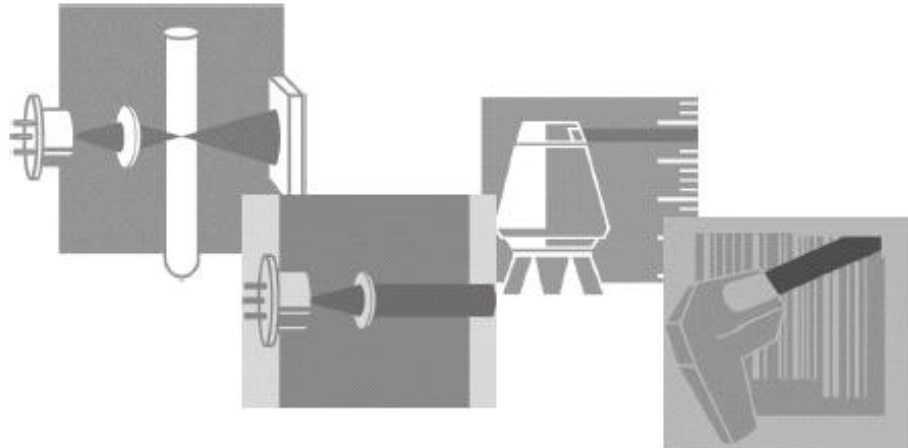
Specifications are subject to change without notice.
Each CircuLaser is provided with test data.



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Circularity, Beam quality, and Beam divergence..... All in one



Handling Care, and Precautions for use of CircuLaser Diodes

1. Absolute Maximum Ratings

- Do not exceed, even momentarily, the maximum ratings. It can cause at minimum a considerable reduction in reliability, and potentially instantaneous failure.
- Surge current generated at power on-off operation may damage laser diodes. Check on the transient characteristics of the power supply to make sure that such surges do not exceed the maximum ratings.
- The maximum ratings are specified for a case temperature of 25°C. As the case temperature goes up, power dissipation as well as maximum light output is reduced. Heat sinking is recommended for longer life, and reliable operation.

2. Soldering Conditions

- Maximum solder-tip temperature should be 250°C. The soldering time must be within 3 sec. A minimum solder clearance of ~1.6mm (60 mils) should be maintained from the root of the lead.

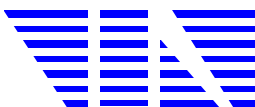
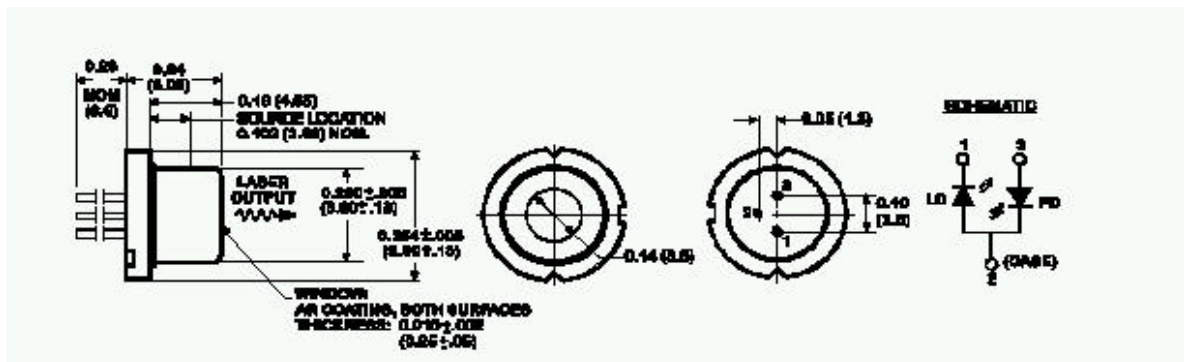
3. Static Electricity

- Soldering irons should be grounded.
- All handling should be done while wearing the ground strap.

4. Safety

- Avoid looking at the output light of the laser diode directly, or indirectly. It may be harmful.

Mechanical Package and Layout (9mm package)



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