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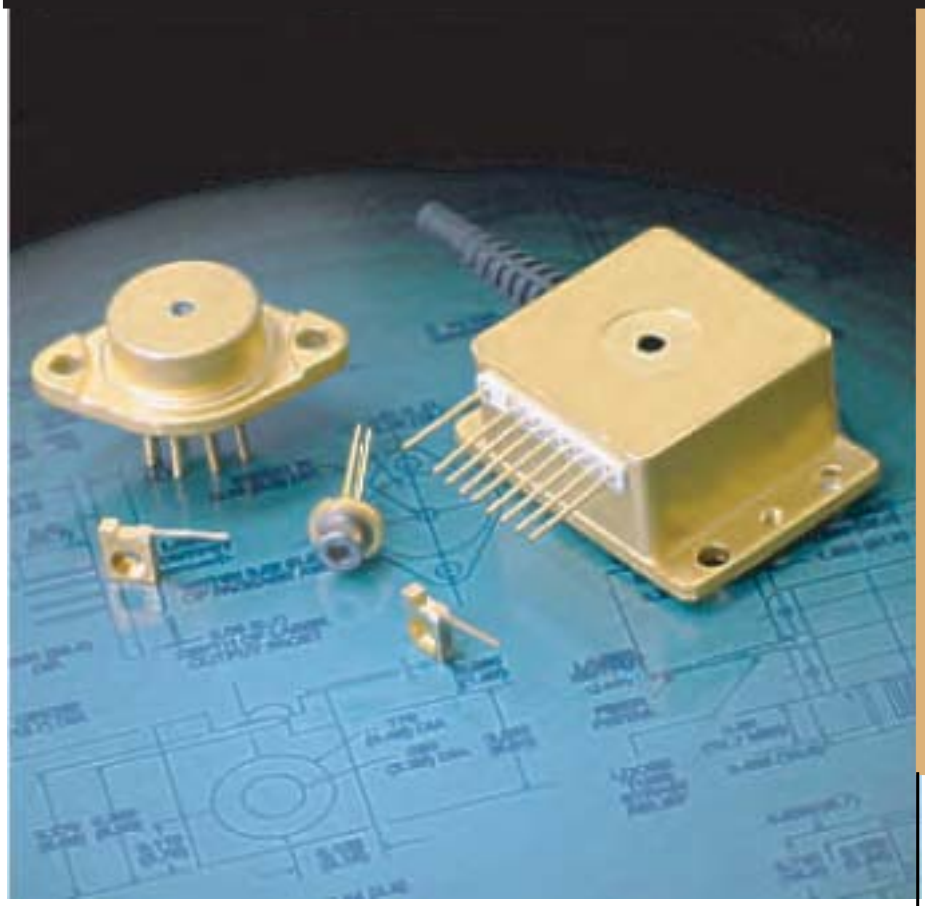
tyco / Electronics
Fiber Optic Business Unit

LDI.
Laser Diode Incorporated

High Power CW Laser Diodes



0.5 - 5 Watts

High efficiency devices

Multiple package options

High reliability

Long life

Applications:

- **Diode based medical systems**
- **Diode pumped solid state lasers**
- **Analytical equipment**
- **Illuminators**
- **Reprographics**
- **Laser initiated ordnance**

Laser Diode's series of High Power CW products is offered with an output range from 0.5 Watt to 5.0 Watts. These devices have a standard wavelength of 808nm ±3nm with a spectral width of 2.5nm FWHM.

10-4400-0014 Rev.C 11/18/03

Since its inception in 1967, LDI has been at the forefront of laser diode technology. Our long history of producing MIL-qualified diode lasers has resulted in a product that is competitively priced, highly reliable, and used world wide in critical applications.

Our quantum well, gain-guided, broad area CW device operates with efficiencies of greater than 1 watt per ampere. Single diode power options from 0.5 to 5.0 watts are available, depending on source size.

Laser Diode Incorporated offers a wide selection of package options including integrated TE coolers, detectors, and fiber optics. Our manufacturing line allows quick response and full customizations for customers that require developmental capability from their laser supplier. LDI offers a selection of fiber coupling options. Each laser device is burned-in and fully characterized for performance. These individualized, fully screened devices are the key component in Laser Diode's quality based and innovation driven customer relationships.

Specifications and Limits @ 25° C

Common Characteristics	Unit	Min	Typ	Max
Peak wavelength	nm	-	808	-
Peak wavelength tolerance	nm	-	±3	-
Spectral width (50% points)	nm	-	2.5	-
Rise/fall times	ns	-	1.0	-
Far field beam divergence	deg	-	12x40	-
Efficiency at I_f	%	-	40	-
Operating temperature	°C	-20	-	+30
Storage temperature	°C	-40	-	+85

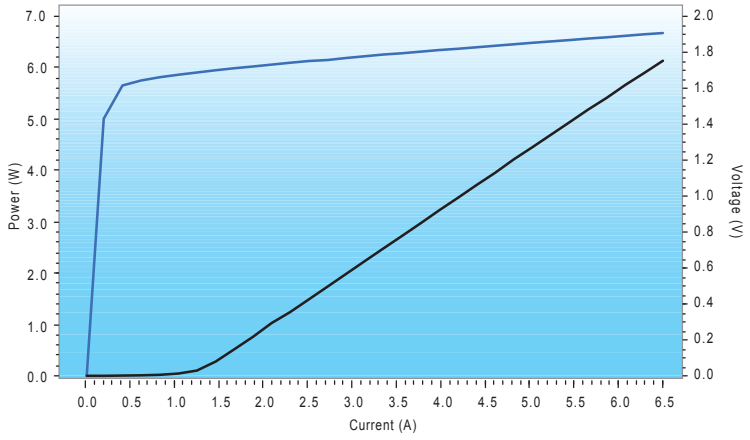
Single Diode Lasers

Laser Characteristics

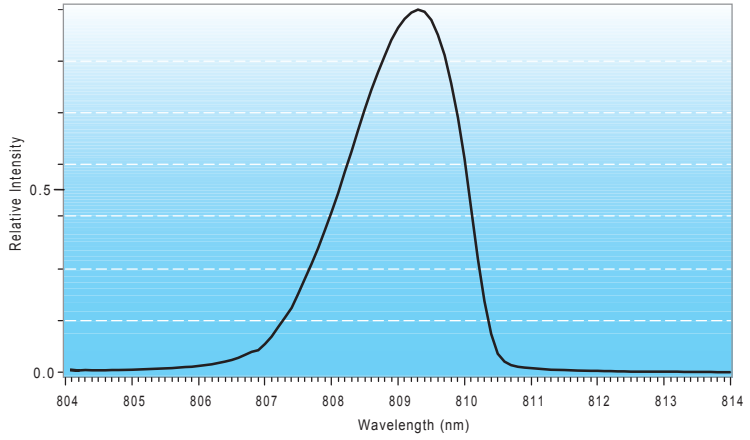
	Power (watts)	Source Size (µm)	Typical Ith (amps)	Max Current (amps)	Typical V_f (volts)
CW 0500 Series	0.5	50	0.15	0.75	2.0
CW 1000 Series	1.0	100	0.3	1.5	2.0
CW 2000 Series	2.0	200	0.6	3.0	2.0
CW 5000 Series	5.0	460	1.3	6.5	2.0

Typical Performance 5W CW Laser @ 25°C

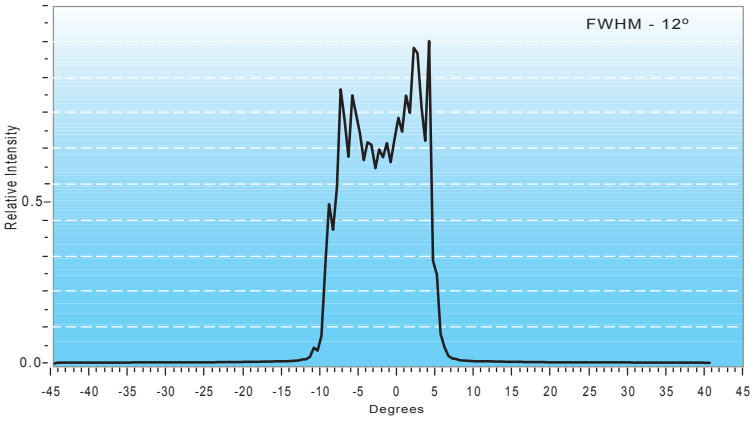
Typical L/I, V/I Graph



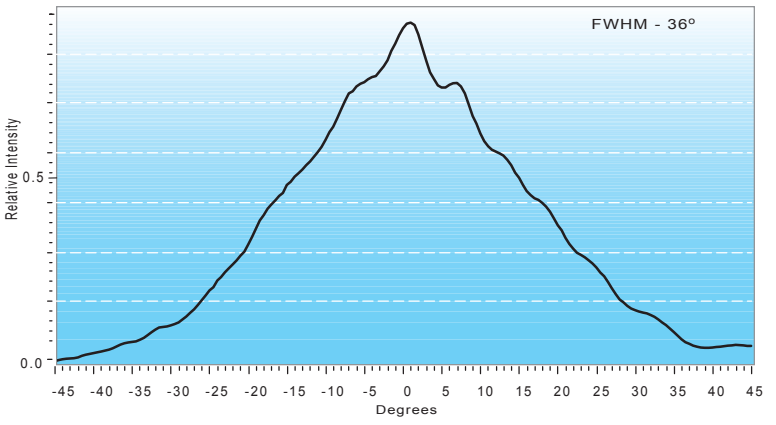
Wavelength Distribution



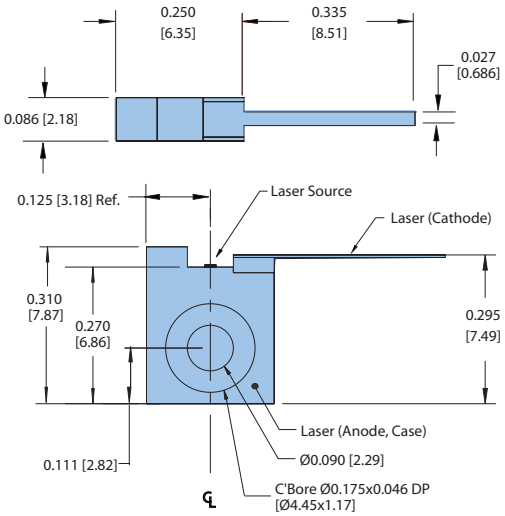
Typical Beam Divergence Parallel



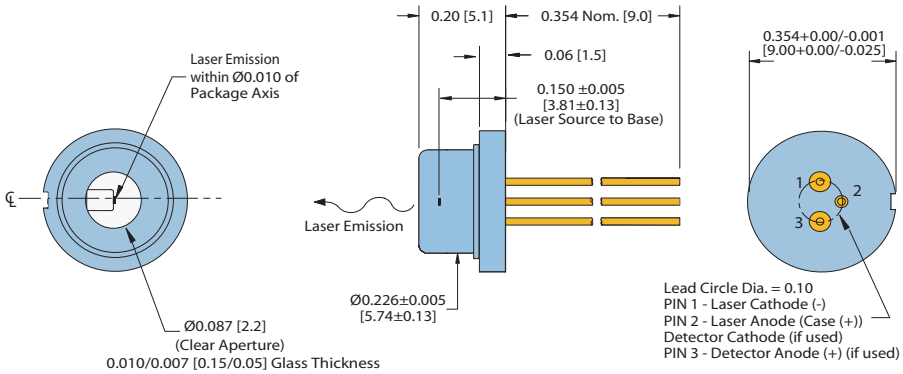
Typical Beam Divergence Perpendicular



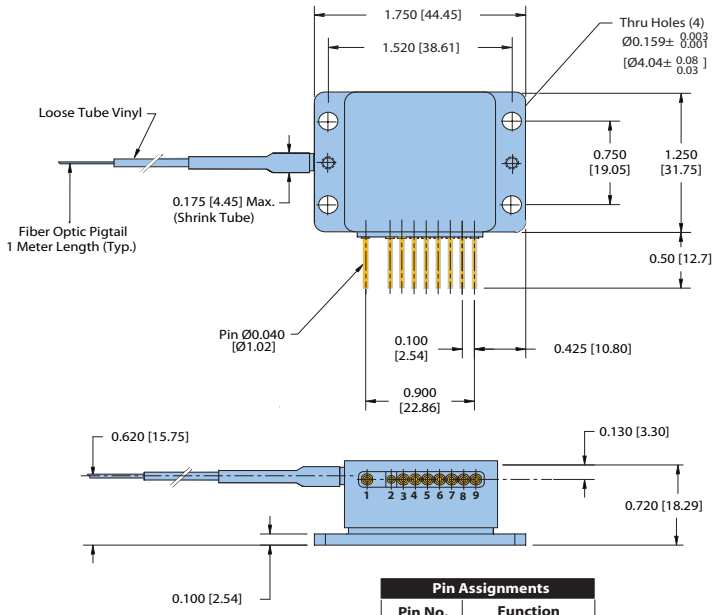
C-Mount Package



9mm Package

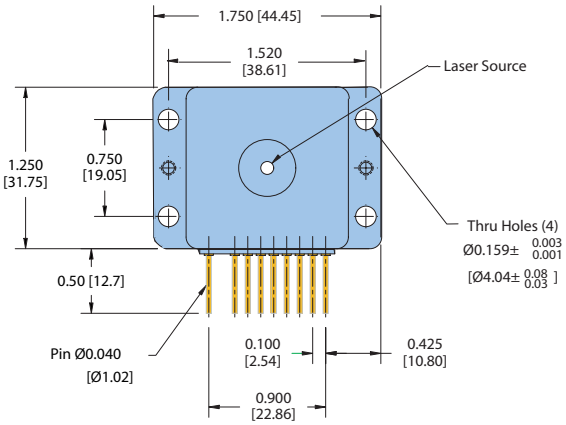


Pigtailed High Heat Load (HHLF)



Pin Assignments	
Pin No.	Function
1	TEC (-)
2	Case
3	Laser(+)
4	Thermistor
5	Thermistor
6	Laser (-)
7	Detector (-)
8	Detector (+)
9	TEC (+)

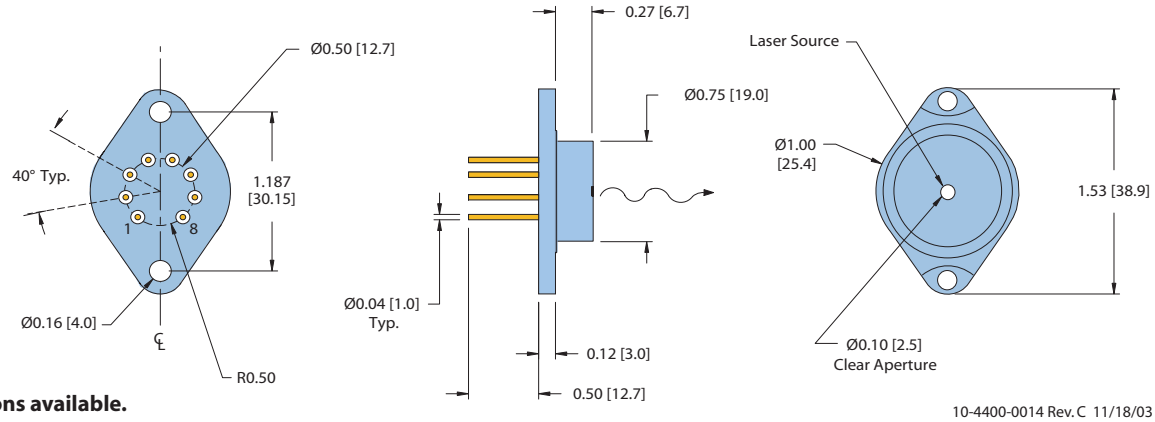
High Heat Load (HHL)



Pin Assignments	
Pin No.	Function
1	TEC (-)
2	Case
3	Laser (+)
4	Thermistor
5	Thermistor
6	Laser (-)
7	Detector (-)
8	Detector (+)
9	TEC (+)

TO-3 Package

Pin Assignments	
Pin No.	Function
1	TEC (+)
2	Thermistor
3	Thermistor
4	Laser (-)
5	Laser (+) [Case]
6	Detector (+)
7	Detector (-)
8	TEC (-)



Note: Additional package options available.

Ordering Information

Product Changes

Laser Diode Incorporated reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application.

Ordering

Products can be ordered directly from Laser Diode Incorporated or its representatives. When ordering, refer to the information below. For a complete listing of representatives, visit our website at www.laserdiode.com.

Special Orders

Some products are supplied with performance characteristics to meet unique customer requirements and differ from those indicated herein. Contact the Laser Diode Incorporated Sales Department or your local representative to discuss your individual requirements. For a complete listing of representatives, visit our website at www.laserdiode.com.

CW XXXX - XX - XX

OUTPUT POWER
0500 = .5 Watt
1000 = 1 Watt
2000 = 2 Watt
5000 = 5 Watt

PACKAGE
CM = C-Mount
HH = High Heat Load
HF = Pigtailed High Heat Load
T3 = TO-3
90 = 9.0mm

OPTIONS
OO = None
DO = Monitor Detector Only
TO = TEC Only
DT = TEC and Monitor Detector

Available Options

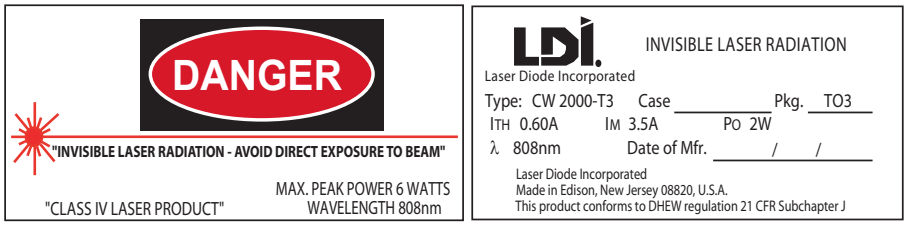
CM: OO
90: OO, DO
T3: OO, DO, TO, DT
(T option up to 1W)
HH: all options
HF: all options

Laser Safety

Personal Hazard: Direct and prolonged exposure to a laser beam may cause eye damage. Observe precautions accompanying the product and precautions appropriate to a Class IV laser.

Handling Precautions: Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload.

Gallium arsenide lasers emit infrared radiation which is invisible to the human eye. When in use, safety precautions should be taken to avoid the possibility of eye damage. Wear certified eye protection.



CAUTION: Use of contents or adjustments or performance of procedures other than specified herein may result in hazardous laser radiation exposure.

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