



Laser Diode Incorporated

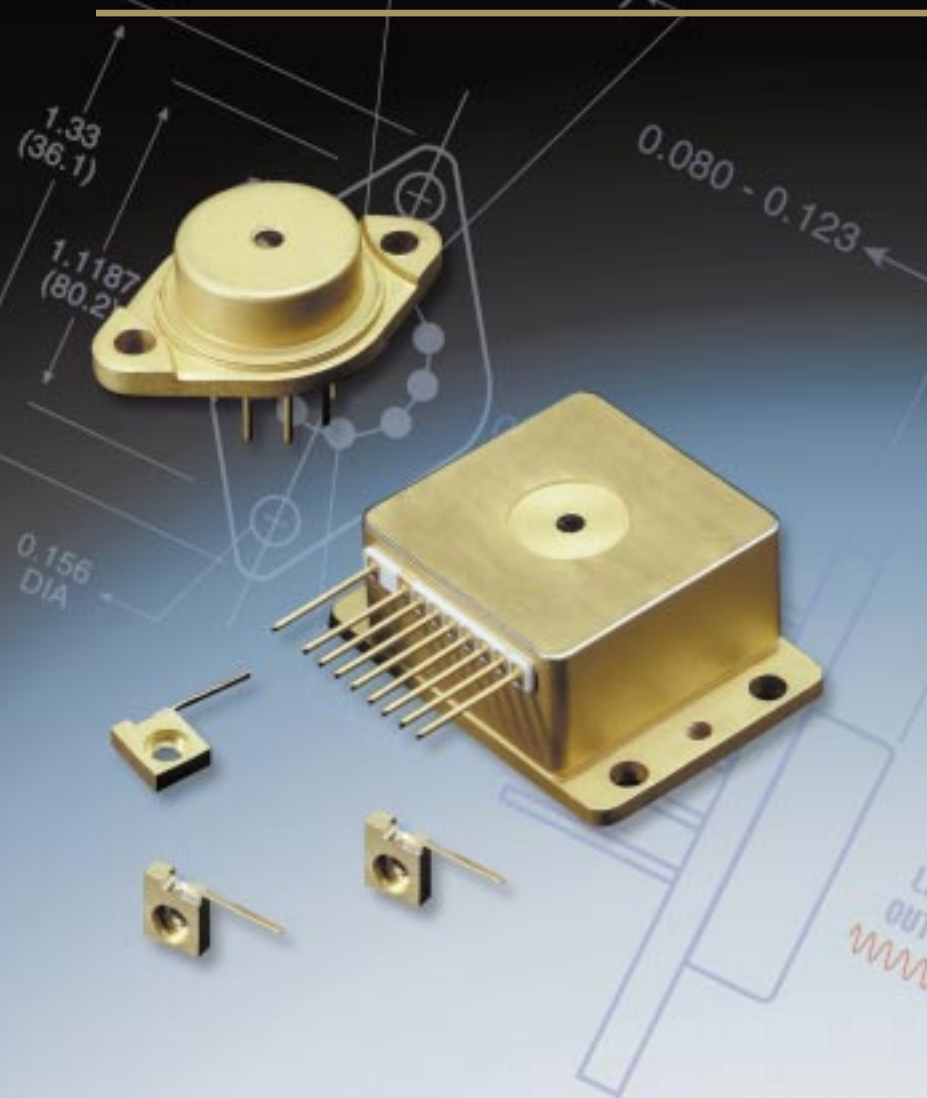
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High Power CW Laser Diodes



0.5 - 5 Watts

High Efficiency Devices

Multiple Package Options

Micro Lensed Devices

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 \pm 3nm with a spectral width of 2.5nm FWHM.



Specifications and Limits

Since its inception in 1967, LDI has been at the forefront of laser diode technology. Research and development efforts in our state-of-the-art wafer processing laboratories, combined with 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.

LDI offers a wide selection of package options including integrated TE coolers, detectors, fiber optics, and micro-optics. Our manufacturing Pilot Line allows quick response and full customization for customers that require developmental capability from their laser supplier. Open heat sink packages are available for device integration into optical system designed with very short working distances. LDI offers a selection of fiber coupling options including low NA coupled devices. 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.

| Common Characteristics | | minimum | typical | maximum |
|------------------------------|-----|---------|---------|---------|
| Peak wavelength | nm | - | 808 | - |
| Peak wavelength tolerance | nm | - | ±3 | - |
| Spectral width (50% points) | ns | - | 2.5 | - |
| Rise/fall times | ns | - | 0.5 | 1.0 |
| Far field beam divergence | deg | - | 12 x 40 | - |
| Efficiency at I _f | % | 25 | 30 | - |
| Operating temperature | °C | -20 | - | +30 |
| Storage temperature | °C | -40 | - | +85 |

SINGLE DIODE LASERS

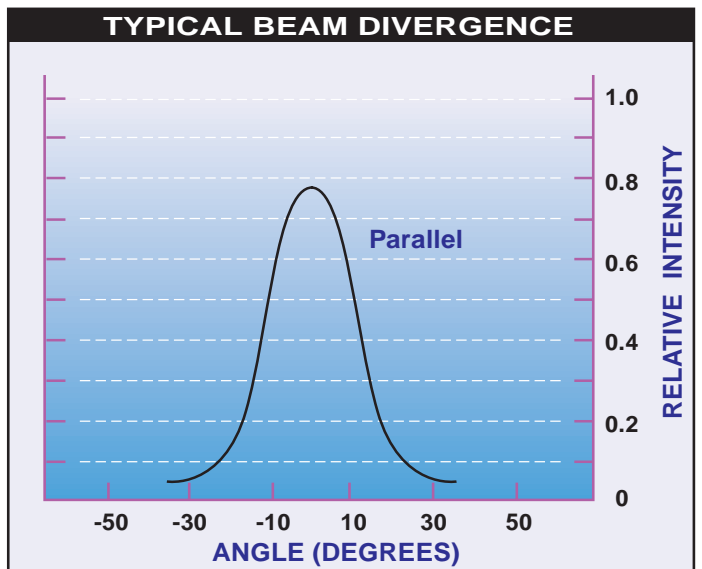
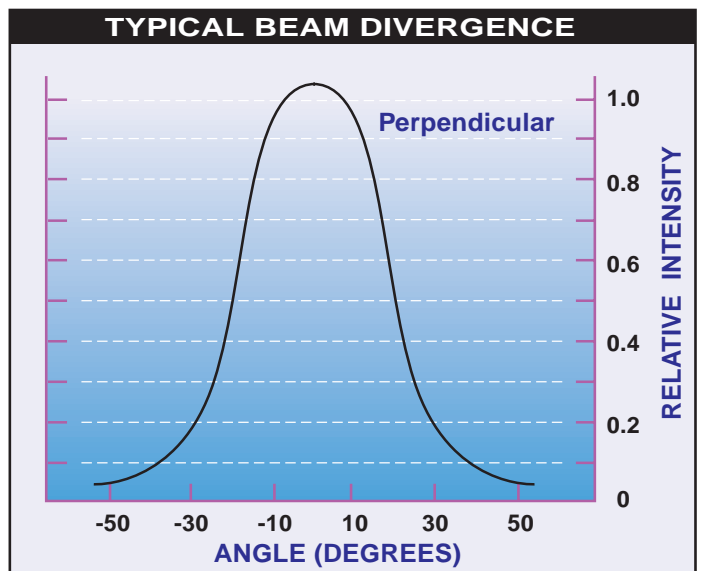
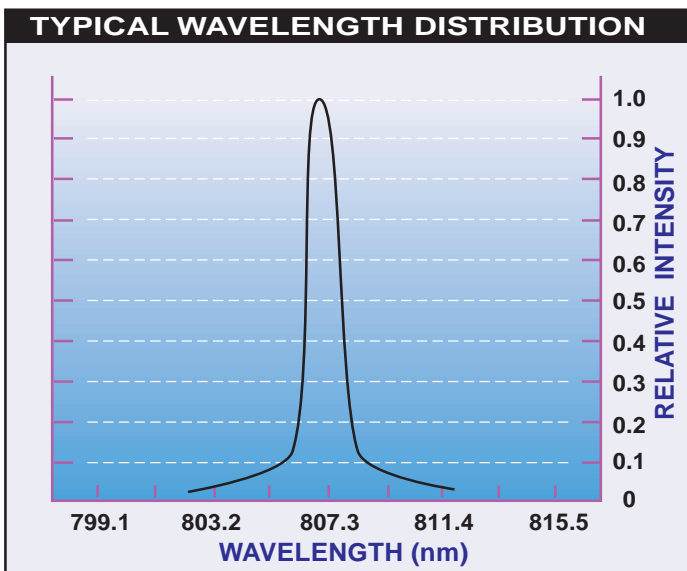
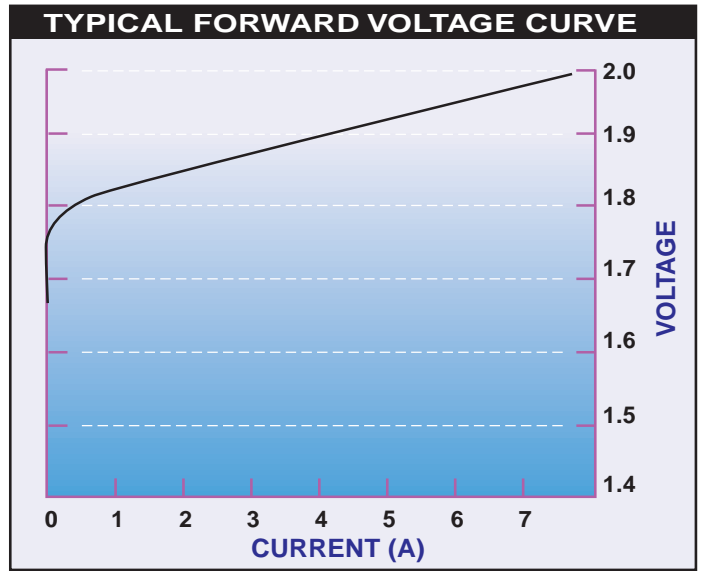
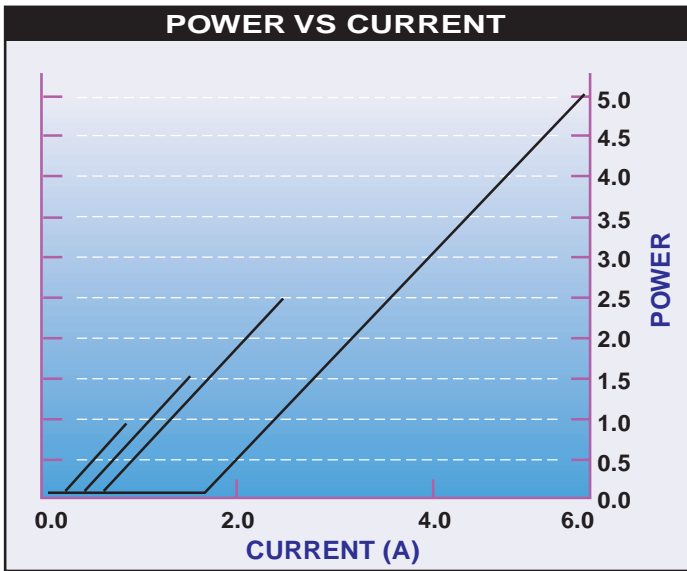
Laser Characteristics

| | Power (watts) | Source Size (μm) | Typical I _{th} (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 | 6.0 | 2.0 |

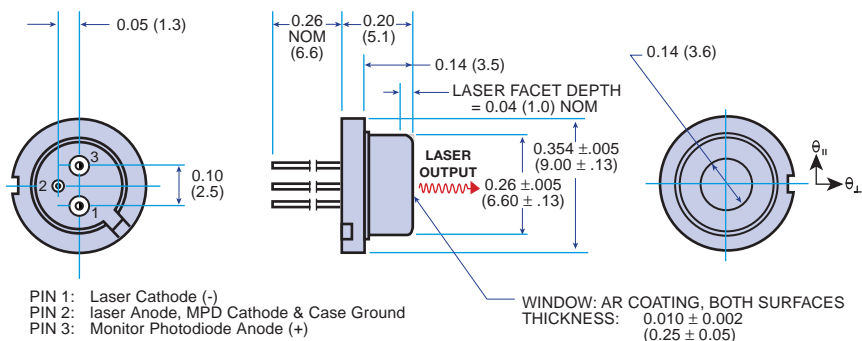
ORDERING INFORMATION

CW 0500-CM-00

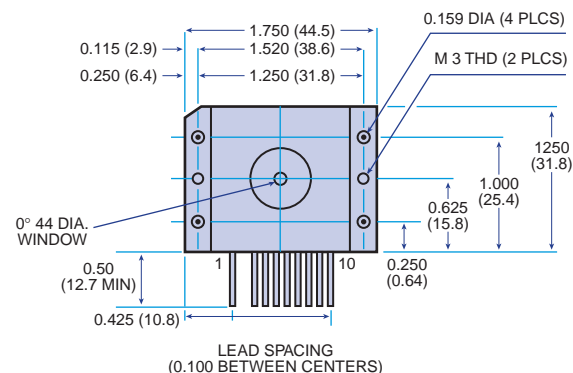
| | | |
|---------------------|-------------------------------|---|
| | | OPTIONS OO = None DO = Monitor Detector Only TO = TEC Only DT = TEC and Monitor Detector |
| OUTPUT POWER | | |
| 0500 = .5 Watt | | |
| 1000 = 1 Watt | | |
| 2000 = 2 Watt | | |
| 5000 = 5 Watt | | |
| | PACKAGE | |
| | CM = C-Mount | |
| | HH = High Heat Load | |
| | HF = Pigtailed High Heat Load | |
| | T3 = TO-3 | |
| | 90 = 9.0 mm | |



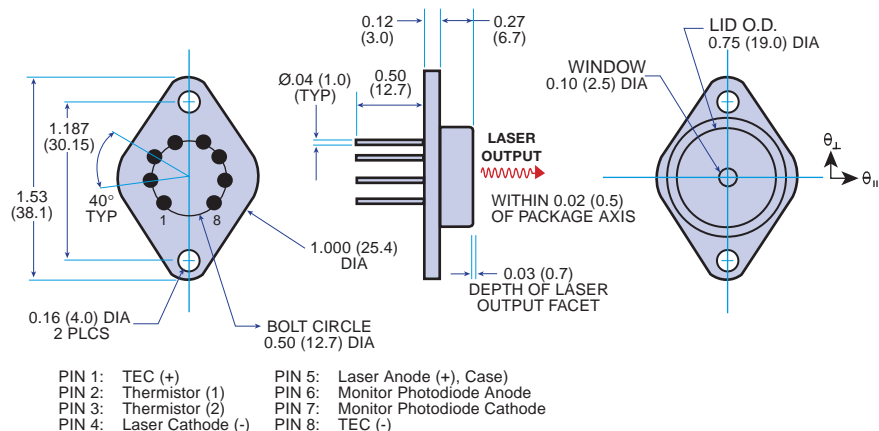
9 mm Package



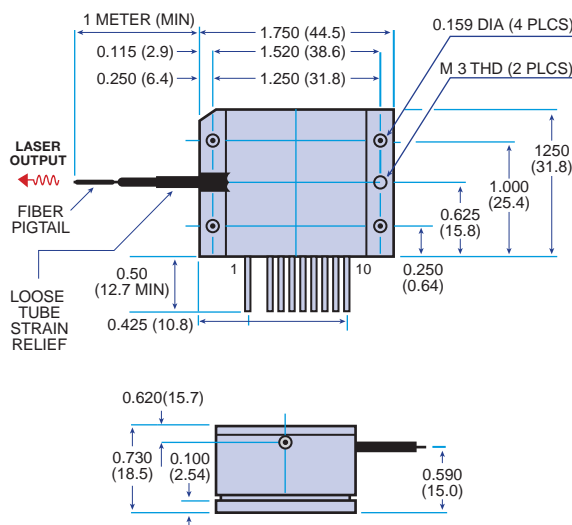
High Heat Load (HHL)



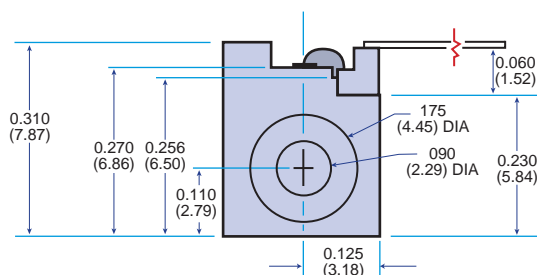
TO-3 Package



Pigtailed High Heat Load (HHLF)



C-Mount Package



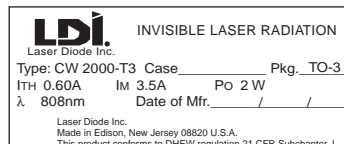
Laser Safety

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.

Special Orders: Some products can be supplied with performance characteristics that will meet special customer requirements and that are different from those indicated herein. Contact the Laser Diode Sales Department or your local Laser Diode Representative to discuss your requirements.

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. Do not stare directly at the device or view an operating laser at close range. If viewing is required, the beam should only be observed by reflection from a matte surface utilizing an image converter or by use of a suitable fluorescent screen.



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

Laser Diode Inc. reserves the right to make changes at any time as deemed necessary to improve the design and supply the best possible product. Information provided is believed at this time to be accurate and reliable. No responsibility is assumed for its use, nor for any infringements on the rights of others.



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