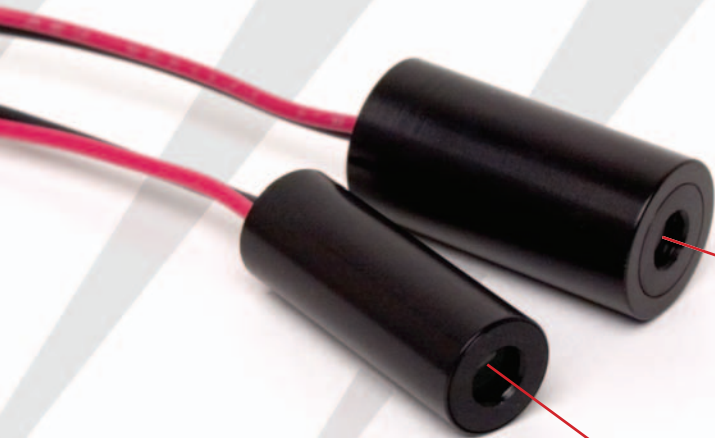


# DLC's New High Performance Diode Laser Modules



- **Pointing Accuracy  $<2\text{mrad}$**
- **Pointing Stability  $<10\mu\text{rad}/^\circ\text{C}$**
- **Water and Dust Resistant**
- **Fully Customizable for OEM Applications**

**These performance advances provide key advantages to the OEM customer:**

- Reduced Fixturing/Labor Costs
- Increased OEM Product Performance
- Broader Application Base
- Unmatched Performance at a Competitive Price.



**Diode Laser Concepts, Inc.**

4731 Industry Drive - Central Point, OR 97502 USA

Tel: 541-773-5321 - Fax: 541-773-1705

Web: [www.diodelaserconcepts.com](http://www.diodelaserconcepts.com)

## EXTERNAL HOUSING SPECIFICATIONS

Housing Dimensions	Ø9.5mm and Ø12.7mm Length: 25.4mm
Housing Material	Aluminum, Hard Anodized (Type III, Class 2 Anodization, Electrically Isolated)
Exit Aperture Protection	Sapphire Window
Customization	Dimensions, Materials, Exit Aperture Protection

## ELECTRICAL SPECIFICATIONS

Operating Voltage	5VDC $\pm$ 1%
Load Current	25mA – 150mA (Laser Dependent)
Load Current vs. Temperature	0.7mA/°C Nominal
Continuous Wave (Standard Driver)	CW to 1kHz, Full Depth Modulation
TTL Modulation (Optional Driver)	CW to 1MHz, Full Depth Modulation
Electronic Protection	Reverse Polarity, Over Voltage, Surge Protection
Interconnect	175mm Nominal, 24AWG, UL1569
Customization	Operating Voltage, Interconnect

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-10°C to 50°C
Storage Temperature	-40°C to 85°C
Static Contact Discharge Immunity	>12kV
Dust/Water Resistant	Yes (Sealed Housing)
Customization	Operating Temperature, Dust/Water Resistance

## OPTICAL SPECIFICATIONS

Wavelength Range	635-830nm
Wavelength Stability	0.25nm/°C Nominal
Optical Power Range	1-30mW, Single Mode
Power Output Stability at 25C	<1%
Power Output vs. Temperature	<0.5%/°C Nominal
Exit Beam Size	5.0mmX1.2mm, 6.1mmX1.2mm
Beam Divergence	<0.7mrad Nominal, Varies with Optical Configuration
Standard Line Fan angles	10°, 30°, 45°, 60°, 90°
Line Thickness	1mm@1Meter Nominal
Line Thickness Divergence	<0.5mrad Nominal, Varies with Optical Configuration
Line Intensity Profile	Gaussian (Top Hat Profile Available Upon Request)
Lens Material	Glass
Customization	Wavelength, Power Output, Spot Size, Fan Angle, Line Thickness, Line Intensity Profile

## POINTING SPECIFICATIONS

Accuracy	<2mrad
Stability vs. Temperature	<10 $\mu$ rad/°C
Customization	Accuracy

## RELIABILITY/REGULATORY SPECIFICATIONS

Laser Lifetime	>30,000 hrs at 25°C
Certification/ Regulatory	CE/ CDRH
Warranty	2 Years

NOTE: Custom products may/may not conform to these specifications.



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**MECHANICAL SPECIFICATIONS**

Laser Material: InGaAlP  
 Housing Material: Aluminum\*  
 Type III Class 2 Black Anodized  
 Exit Aperture Protection: Sapphire Window (Optional)  
 Lens Material: Glass

**OPTICAL SPECIFICATIONS**

Wavelength (25°C): Various within the range of 630nm - 830nm  
 Wavelength Stability: 0.25nm / °C (Nominal)  
 Output Power (Exit Aperture): 0.97mW, 4.9mW, 20mW (Nominal)\*  
 Output Power Stability (25°C): <1% Fluctuation over 60 Minutes  
 Output Power vs. Temperature: <0.5% / °C (Nominal)  
 Beam Size (At Exit Aperture): 0.85mm x 3.4mm, 1.2mm x 5.0mm, 1.5mm x 5.5mm  
 (Nominal, varies with optical configuration and focus.)\*  
 Beam Divergence: Varies with optical configuration and focus.  
 Emissions Indicator: Green LED

**POINTING SPECIFICATIONS**

Accuracy: <2mrad  
 Stability vs. Temperature: <10µrad / °C

**ELECTRICAL SPECIFICATIONS**

Operating Voltage: 5VDC Regulated +/- 1%\*  
 Load Current –Typical at 25°C: Varies with Output Power and Wavelength  
 Load Current –Max. at 25°C: Varies with Output Power and Wavelength  
 Continuous Wave: CW to 1kHz Full Depth Modulation\*  
 Turn on Time <0.1s \*  
 Case: Electrically Isolated  
 Electronic Protection: Reverse Polarity Protection  
 Over Voltage Protection  
 Surge Protection  
 Interconnect: 24 AWG, UL1569\*  
 Red (+), Black (-)

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature: -10 to 50°C (60°C, 70°, 80°C) \*  
 Storage Temperature: -40°C to 85°C  
 Static Discharge Immunity: >12Kv (Contact)  
 Dust/Water Resistance: Yes

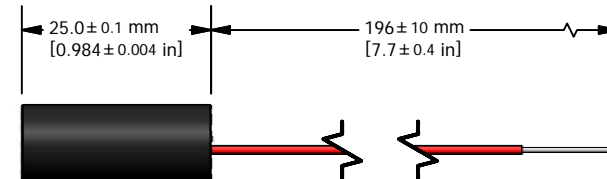
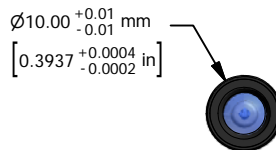
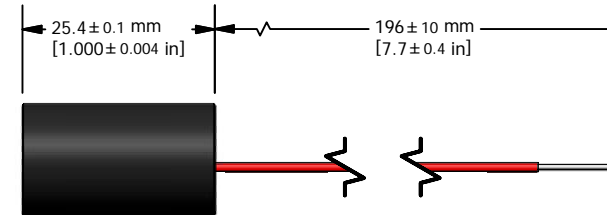
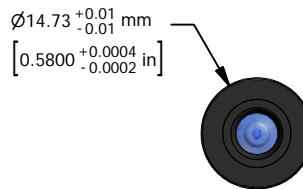
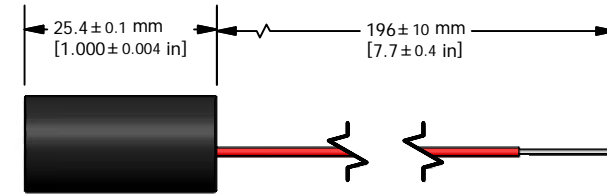
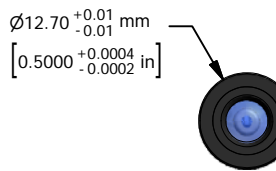
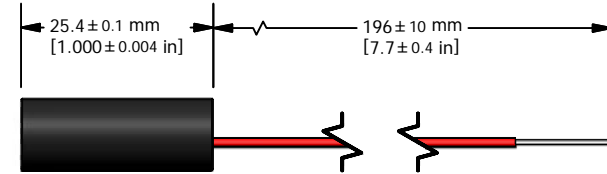
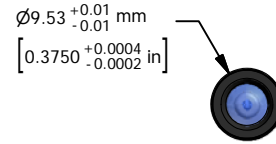
**RELIABILITY/REGULATORY SPECIFICATIONS**


Certifications: CE  
 CDRH Class Dependant Upon Output Power and Wavelength  
 RoHS compliance: Beginning January 2006  
 Warranty: 2 Years

\*Indicates Customization Available

REVISION HISTORY

REV	DESCRIPTION	DATE	APPROVED
1	Originate Document	11/17/2005	Zack S.



APPROVALS	DATE	 <b>DIODE LASER CONCEPTS, INC.</b> 4731 Industry Drive Central Point, Oregon 97502 USA
Drawn By: Zack S.	11/17/05	
Approved By: Mike R.	11/17/05	Part Number: Specific part numbers are issued according to configuration.
Customer Approval: N/A	N/A	Description: General specifications for high performance spot modules.

**MECHANICAL SPECIFICATIONS**

Laser Material: InGaAlP  
 Housing Material: Aluminum\*  
 Type III Class 2 Black Anodized  
 Exit Aperture Protection: Sapphire Window  
 Lens Material: Glass

**OPTICAL SPECIFICATIONS**

Wavelength (25°C): Various within the range of 630nm - 830nm  
 Wavelength Stability: 0.25nm / °C (Nominal)  
 Output Power (Exit Aperture): 0.97mW, 4.9mW, 20mW (Nominal)\*  
 Output Power Stability (25°C): <1% Fluctuation over 60 Minutes  
 Output Power vs. Temperature: <0.5% / °C (Nominal)  
 Fan Angle: 45°, 70°, 90° (Nominal) \*  
 Line Thickness : 1mm nominal (Measured at Face)  
 Line Intensity Profile: Gaussian  
 Emissions Indicator: Green LED

**POINTING SPECIFICATIONS**

Accuracy: <2mrad  
 Stability vs. Temperature: <10µrad / °C

**ELECTRICAL SPECIFICATIONS**

Operating Voltage: 5VDC Regulated +/- 1%\*  
 Load Current –Typical at 25°C: Varies with Output Power and Wavelength  
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 Red (+), Black (-)

**ENVIRONMENTAL SPECIFICATIONS**

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 Dust/Water Resistance: Yes

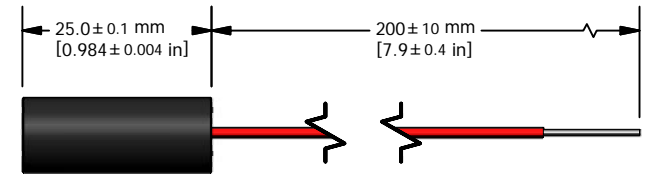
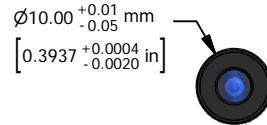
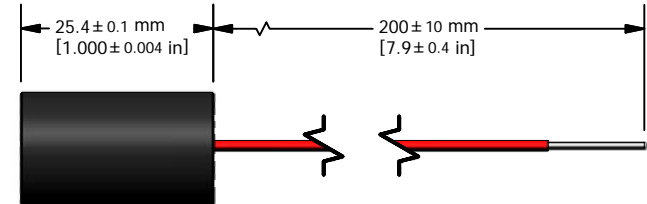
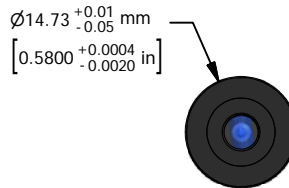
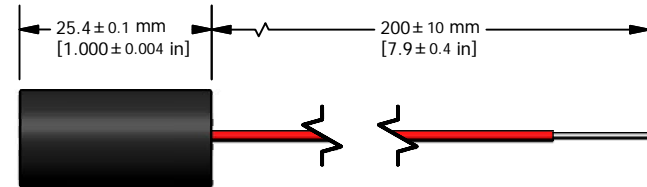
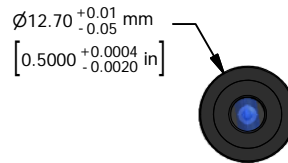
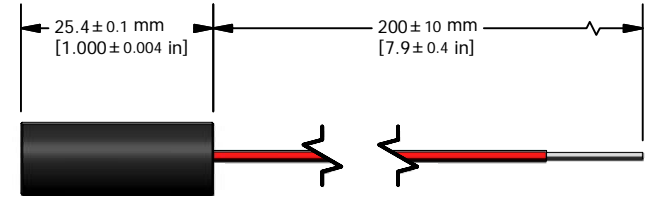
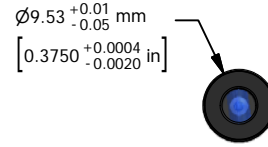
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Drawn By: Zack S.	11/17/05	
Approved By: Mike R.	11/17/05	Part Number: Specific part numbers are issued according to configuration.
Customer Approval: N/A	N/A	Description: General specifications for high performance line generator modules.