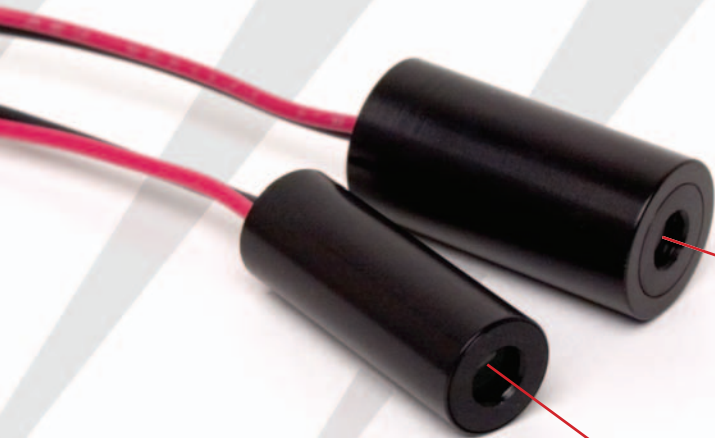


DLC's New High Performance Diode Laser Modules



- **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

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 ± 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 | <10µrad/°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

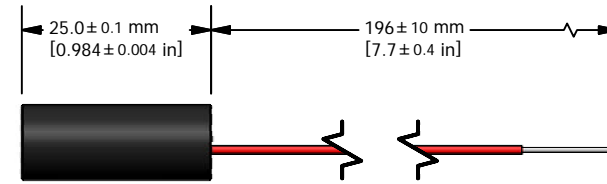
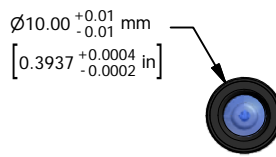
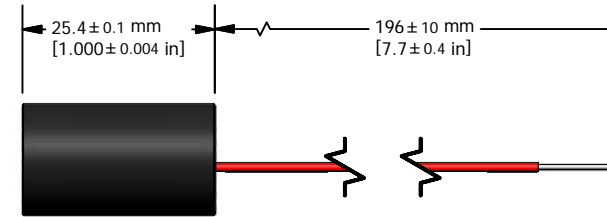
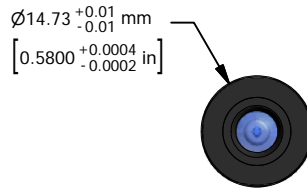
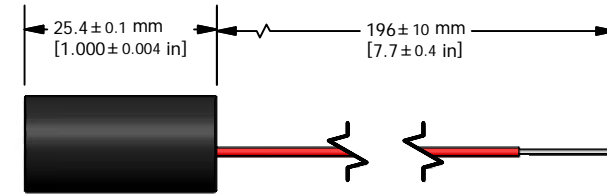
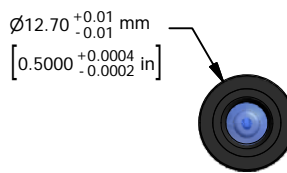
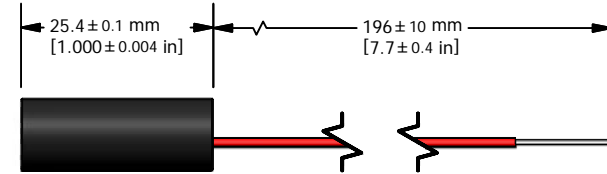
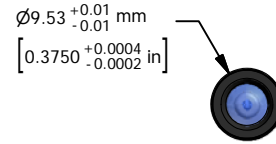
RELIABILITY/REGULATORY SPECIFICATIONS


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 |  DIODE LASER CONCEPTS, INC. 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
 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

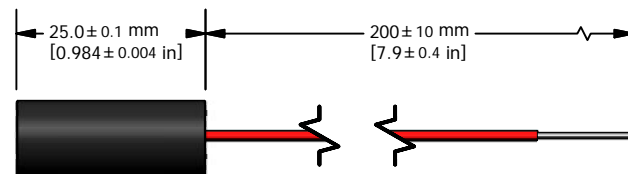
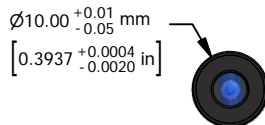
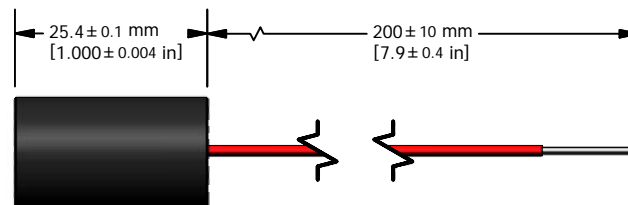
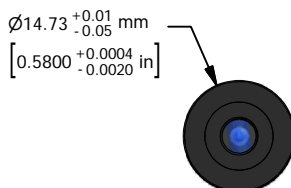
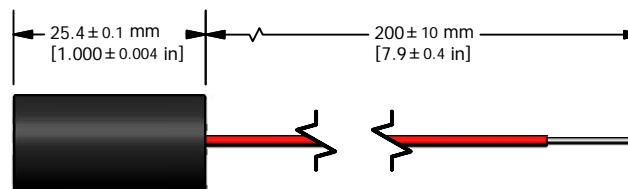
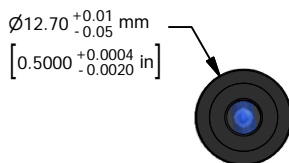
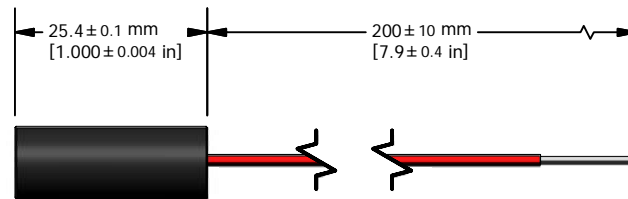
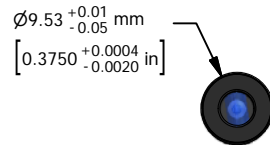
Operating Temperature: -10 to 50°C (60°C, 70°, 80°C) *
 Storage Temperature: -40°C to 85°C
 Static Discharge Immunity: >12Kv (Contact)
 Dust/Water Resistance: Yes

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 | | | |
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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. |