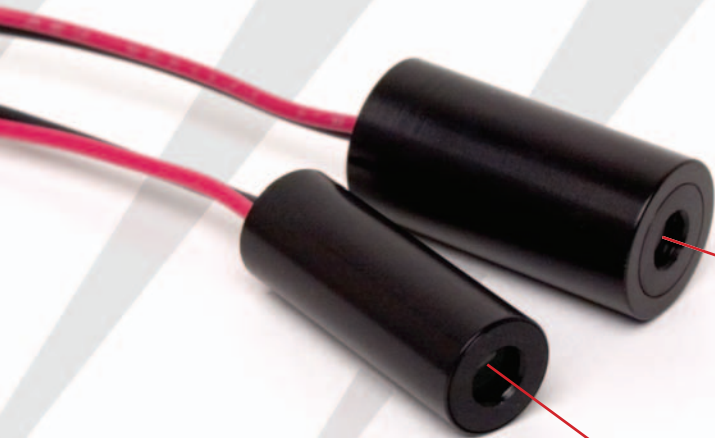


DLC's New High Performance Diode Laser Modules



- **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 \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 μ 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		REVISION HISTORY			
		REV	DESCRIPTION	DATE	APPROVED
Laser Material:	InGaAlP	1	Originate Document	11/17/2005	Zack S.
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				

$\varnothing 9.53^{+0.01}_{-0.01}$ mm [0.3750 ^{+0.0004} _{-0.0002} in]		
$\varnothing 12.70^{+0.01}_{-0.01}$ mm [0.5000 ^{+0.0004} _{-0.0002} in]		
$\varnothing 14.73^{+0.01}_{-0.01}$ mm [0.5800 ^{+0.0004} _{-0.0002} in]		
$\varnothing 10.00^{+0.01}_{-0.01}$ mm [0.3937 ^{+0.0004} _{-0.0002} in]		

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	
Customer Approval: N/A	N/A	

Part Number:
Specific part numbers are issued according to configuration.


Description:
General specifications for high performance spot modules.

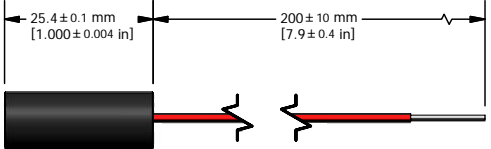
*Indicates Customization Available

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MECHANICAL SPECIFICATIONS		REVISION HISTORY			
		REV	DESCRIPTION	DATE	APPROVED
Laser Material:	InGaAlP	1	Originate Document	11/17/2005	Zack S.
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				


Ø9.53 ^{+0.01}/_{-0.05} mm
[0.3750 ^{+0.0004}/_{-0.0020} in]

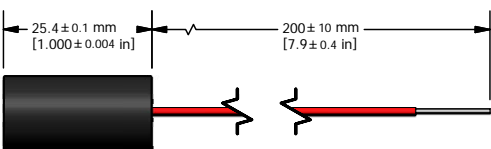




25.4 ± 0.1 mm [1.000 ± 0.004 in] 200 ± 10 mm [7.9 ± 0.4 in]


Ø12.70 ^{+0.01}/_{-0.05} mm
[0.5000 ^{+0.0004}/_{-0.0020} in]

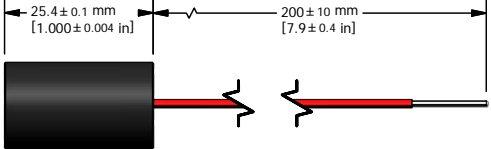




25.4 ± 0.1 mm [1.000 ± 0.004 in] 200 ± 10 mm [7.9 ± 0.4 in]


Ø14.73 ^{+0.01}/_{-0.05} mm
[0.5800 ^{+0.0004}/_{-0.0020} in]

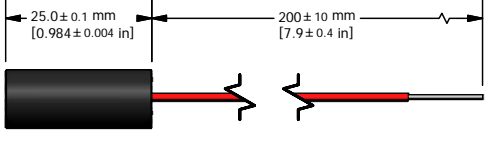





25.4 ± 0.1 mm [1.000 ± 0.004 in] 200 ± 10 mm [7.9 ± 0.4 in]

Ø10.00 ^{+0.01}/_{-0.05} mm
[0.3937 ^{+0.0004}/_{-0.0020} in]





25.0 ± 0.1 mm [0.984 ± 0.004 in] 200 ± 10 mm [7.9 ± 0.4 in]

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	
Customer Approval: N/A	N/A	

Part Number:
Specific part numbers are issued according to configuration.

Description:
General specifications for high performance line generator modules.

*Indicates Customization Available