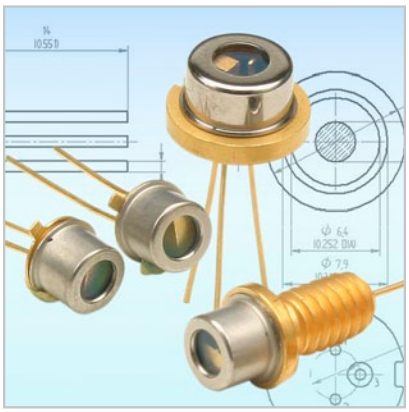
Laser Diodes

High Power Pulsed Laser Diodes 905D3J09-Series

Features

- Multi-Junction devices up to 200 Watts
- Proven InGaAs / GaAs high reliability structure
- High power large-optical-cavity (LOC) structure for a narrow far-field
- Excellent temperature stability
- Hermetic and custom designed package



Applications

- Range finding
- Surveying equipment
- Weapons simulation
- Laser radar
- Ceilometer
- Optical trigger
- Medical

Optical Characteristics at t_{RT}= 21°C, I_{FM}

	Min	Typ	Max	Units
Wavelength of peak radiant intensity λ m	895	905	915	nm
Spectral bandwidth Δλ at 50% intensity points		8		nm
Wavelength temperature coefficient		0.27		nm/°C
Beam spread (50% peak intensity)				
Parallel to junction plane ∥		12		Degrees
Perpendicular to junction plane ⊥		20		Degrees

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Optical Characteristics at t_{RT}= 21°C, tw= 100 ns, P_{rr}= 3.33 kHz, I_F= 35 A

Parameter	905D1S3J09X	905D2S3J09X	905D3S3J09X
Number of element	1 x 3	2 x 3	3 x 3
P_O at I_F (typ.)	75 W	135 W	200 W
Emitting area	235 x 10 µm	235 x 200 µm	235 x 400 µm
I_{TH} typ	800 mA	800 mA	800 mA

Absolute Maximum Ratings

Maximum ratings	Limiting values
Peak reverse voltage	6 V
Max. peak forward current I_{FM}	35 A
Pulse duration	
- Single element	150 ns
- Stacks	150 ns
Duty factor	0.1 %
Temperature	
- Storage	-55°C to + 100°C
- Operating	-45°C to + 85°C
Lead soldering	
- 5 seconds max at	200°C

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Figure 1:
Optical output power vs. forward current

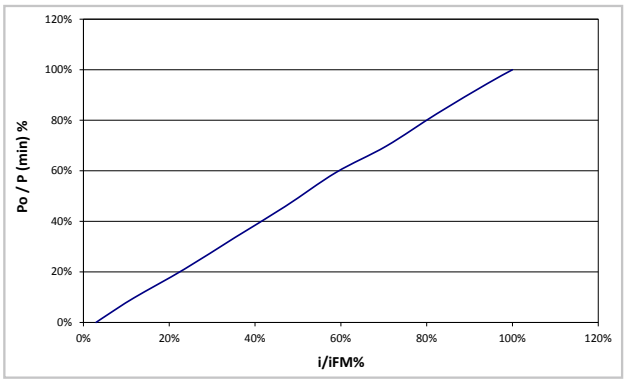


Figure 2:
Optical output power vs. temperature

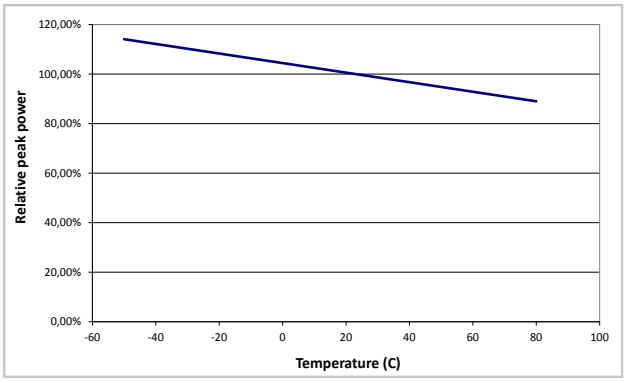


Figure 3:
Wavelength vs. temperature

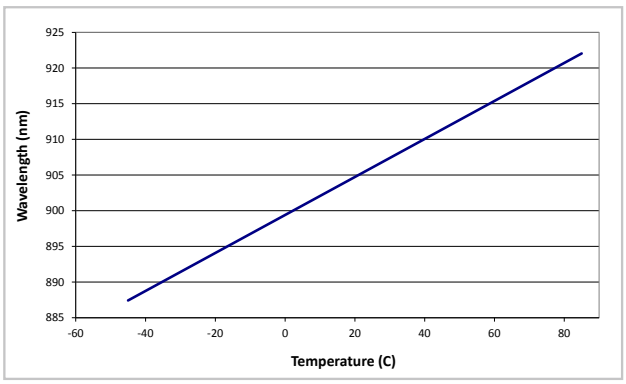


Figure 4:
Spectral intensity distribution

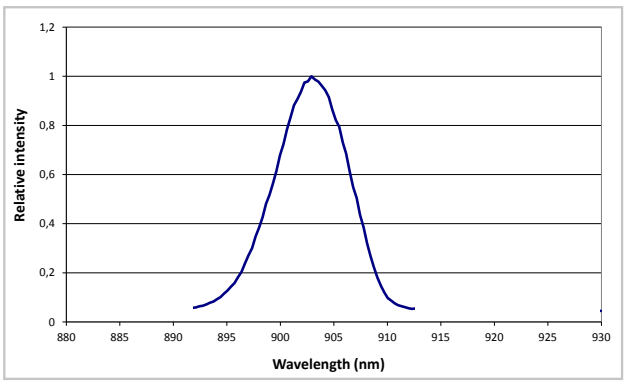
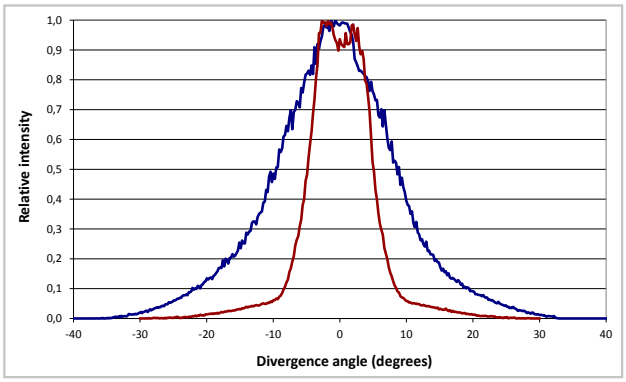


Figure 5:
Far field emission parallel and perpendicular to junction plane



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Product Number Designations

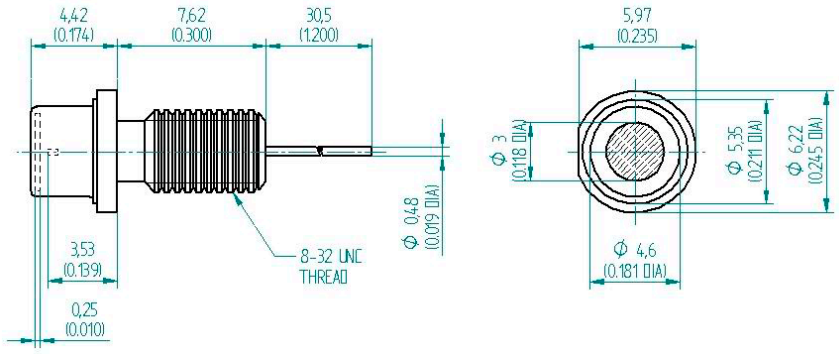
9	0	5	D			3	J	0	9	

Diode Configuration
1S= single stack
2S= double stack
3S= triple stack

Package Style
C = 8 - 32 coax
R = 9 mm CD
S = TO-18
Y = ceramic

Package Drawings

Package C 8 - 32 coax



Package C: Pin Out: Case (-), Pin (+), Inductance 12 nH

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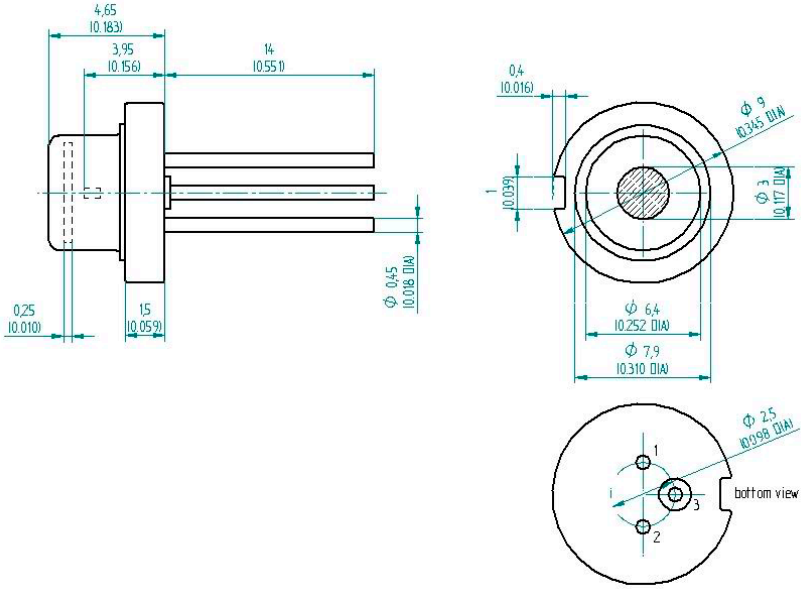
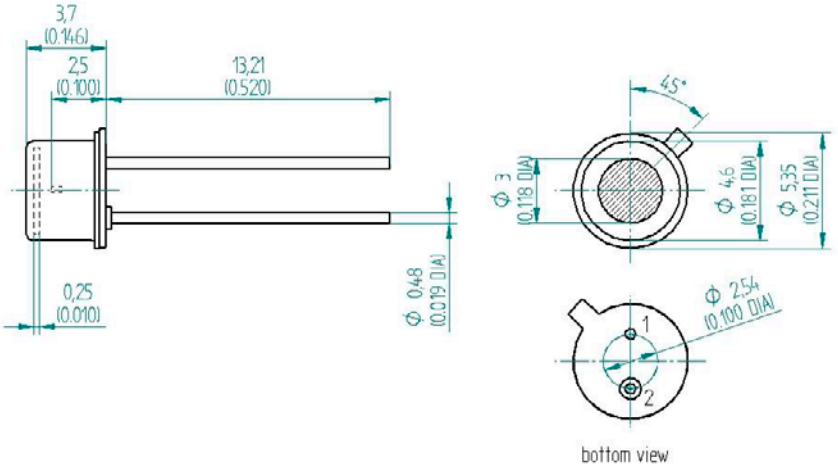
Package R 9 mm CD



Package R: Pin Out: 1. LD Anode (+),
2. NC,
3. LD Cathode (-) Case, Inductance 6.8 nH

Package S TO-18



Package S: Pin Out: 1. LD Anode (+),
2. LD Cathode (-) Case, Inductance 5.2 nH

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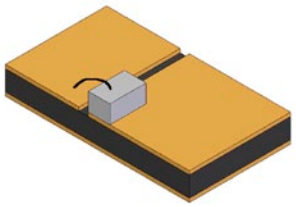
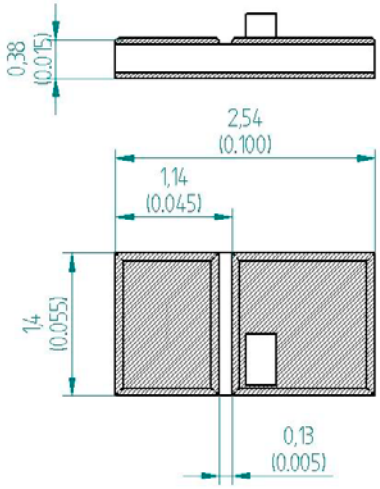
Package Y ceramic carrier





Package Y: Pin Out: 1. LD Anode (+),
2. LD Cathode (-) Case, Inductance 1.6 nH

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Product Changes

LASER COMPONENTS 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 Information

Products can be ordered directly from LASER COMPONENTS or its representatives. For a complete listing of representatives, visit our website at www.lasercomponents.com

Custom designed products are available on request.

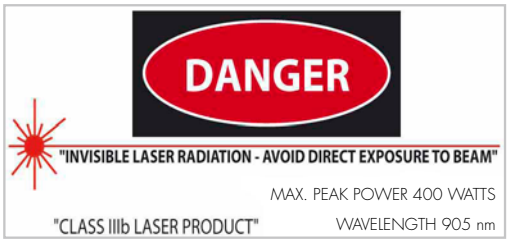
Laser Safety

Personal Hazard:

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 "Safety of laser products".

Handling Precautions:

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



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