Laser Diodes

LASER COMPONENTS®

High Power Pulsed Laser Diodes 905D3J08-Series

Features

- Nanostack devices up to 650 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}= 25 °C

	Min	Typ	Max	Units
Wavelength of peak radiant intensity λ m	895	905	915	nm
Spectral bandwidth Δλ at 50% intensity points		7		nm
Wavelength temperature coefficient		0.27		nm/°C
Beam spread (50% peak intensity) Parallel to junction plane ∥ Perpendicular to junction plane ⊥		 10 25		 Degrees Degrees

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Optical Characteristics at t_{RT}= 21°C, t_w= 150 ns, P_{rr}= 6.66 kHz, I_F = 30 A

Parameter	905D1S3J08X	905D2S3J08X	905D3S3J08X	905D4S3J08X	905D5S3J08X	Units
Number of elements	1 x 3	2 x 3	3 x 3	4 x 3	5 x 3	
P_O at I_F, (min)	65	130	195	260	325	W
Emitting area	200 x 10	200 x 110	200 x 220	200 x 330	200 x 440	µm
Threshold, I_{th} typ.	750	750	750	750	750	mA
Forward voltage at I_F	11	20	27	34	40	V

Conditions are t_{RT}= 21°C, t_w= 150 ns, P_{rr}= 6.66 kHz, I_F = 60 A

Parameter	905D4S2L3J08X	905D5S2L3J08X	Units
Number of elements	2 x (4 x 3)	2 x (5 x 3)	
P_O at i_{FM} , (min)	520	650	W
Emitting area	800 x 330	800 x 440	µm
Threshold, I_{th}	1500	1500	mA
Forward voltage i_F	34	40	V

Absolute Maximum Ratings

Maximum ratings	Limiting values
Max. current	40 A
Max. current for 2L	60 A
Peak reverse voltage	6 V
Pulse duration	150 ns
Duty factor	0.10%
Temperature - Storage - Operating	 -55 °C to + 100 °C -45 °C to + 85 °C
Lead soldering - 5 seconds max at	 200 °C

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Figure 1 a:
Optical output power vs. forward current (1)

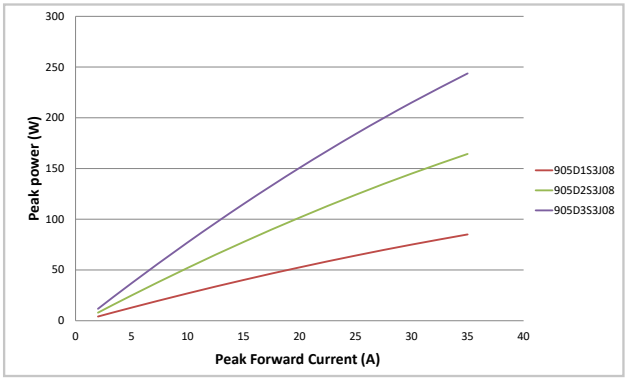

Figure 1 b:
Optical output power vs. forward current (2)

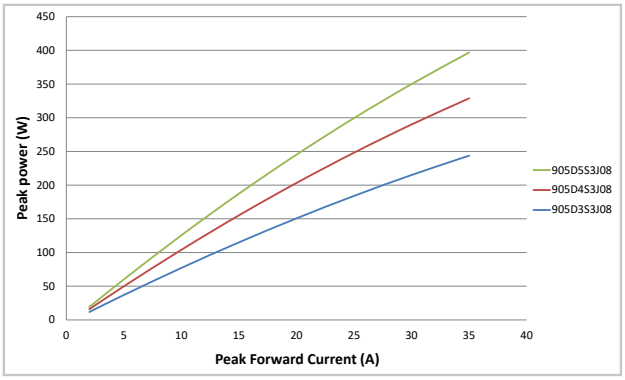

Figure 1 c:
Optical output power vs. forward current (3)

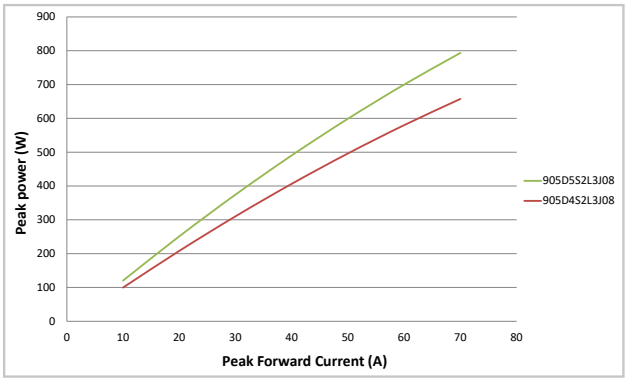

Figure 2:
Optical output power vs. temperature

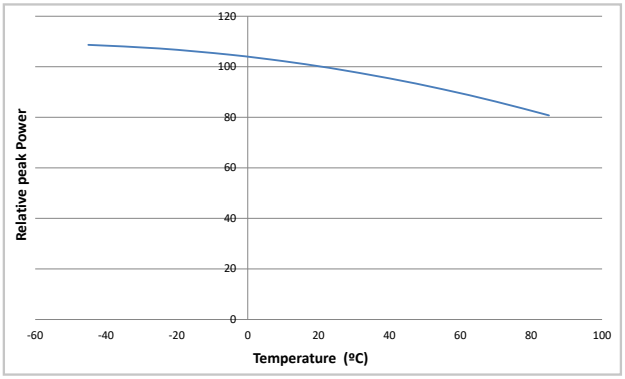

Figure 3:
Wavelength vs. temperature

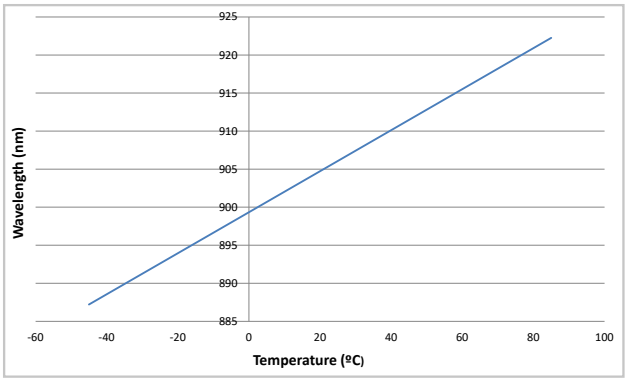

Figure 4 a:
Static Vf vs. forward current

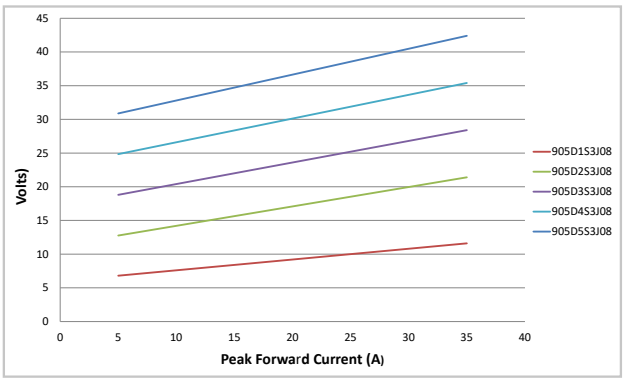

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Figure 4 b:
Static Vf vs. forward current

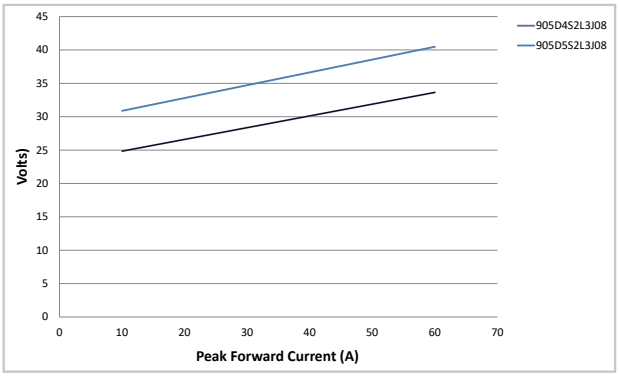
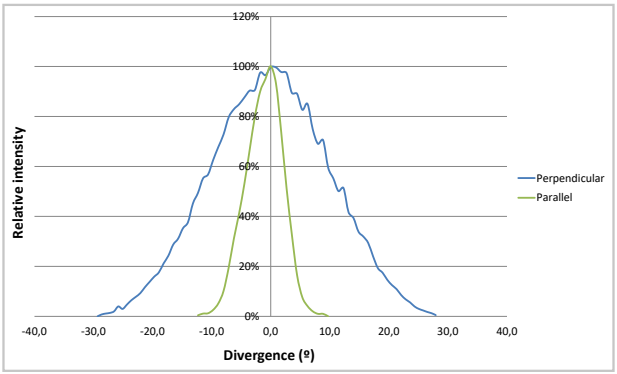
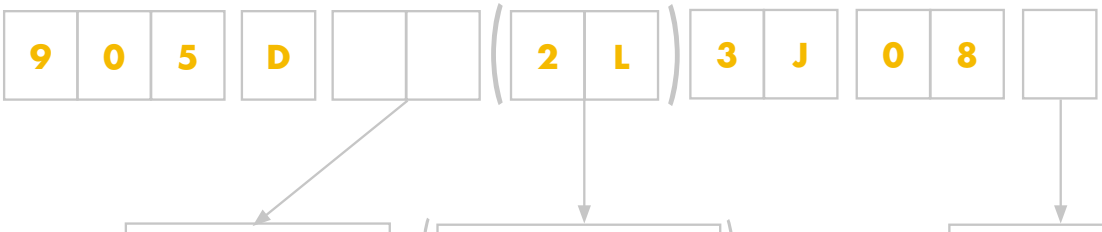


Figure 5:
Typical beam divergence, parallel and perpendicular to the junction plane



Product Number Designations



Diode Configuration
1S = single stack
2S = double stack
3S = triple stack
4S = quad stack
5S = quint stack

2 linear parallel array

Package Style
C = 8 - 32 coax
S = TO-18
U = 5.6 mm CD only available for 905DIS3J08 / 2S3J08 / 3S3J08

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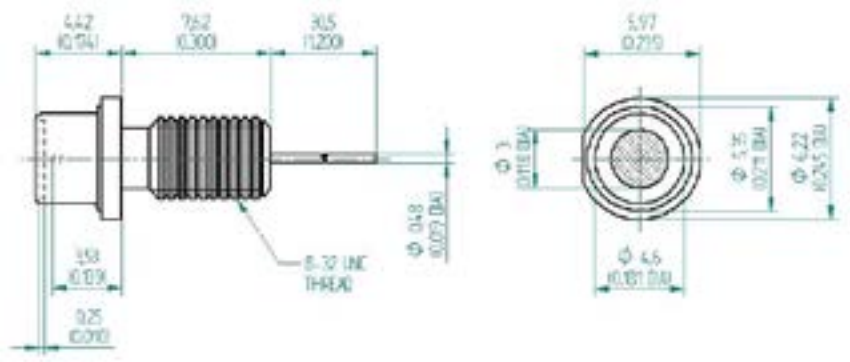
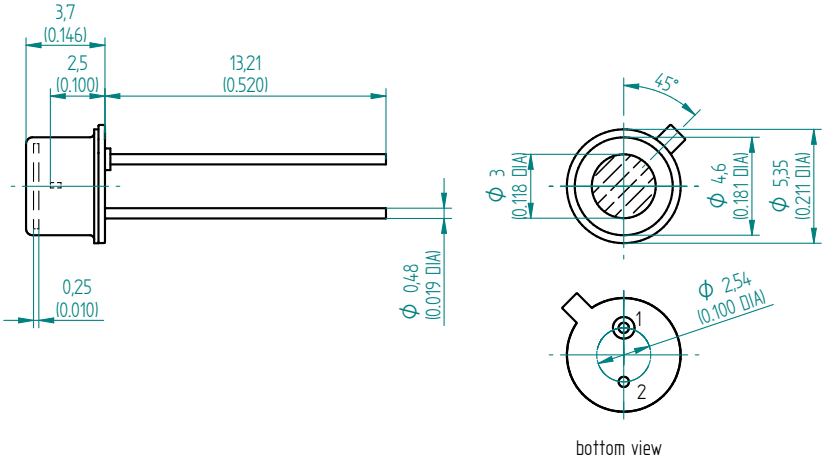
Package Drawings

Package C 8 - 32 coax



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

Package S TO-18



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

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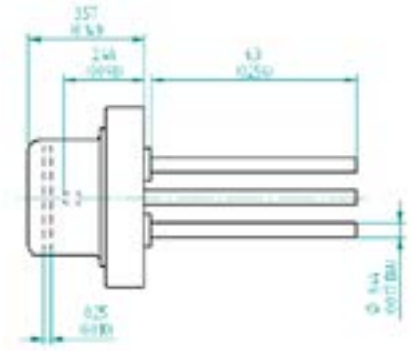
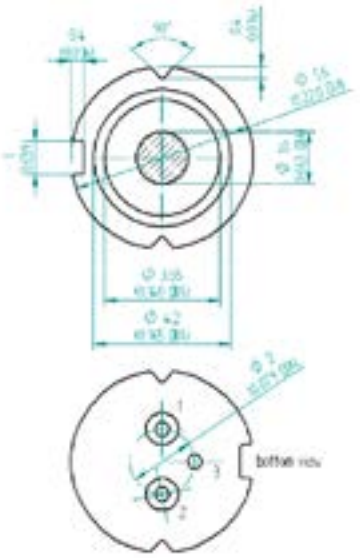
Package U 5.6 mm CD





Package U: Pin Out: 1. LD Anode (+),
2. NC,
3. LD Cathode (-) Case, Inductance 5.0 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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