

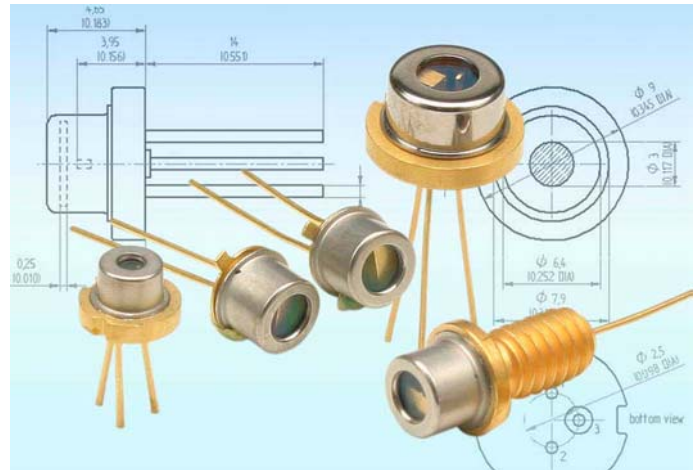
High Power Pulsed Laser Diodes 905D3J08-Series

FEATURES

- Nanostack devices up to 210 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 $t_{RT} = 25\text{ }^{\circ}\text{C}$

	MIN	TYP	MAX	UNITS
Wavelength of peak radiant intensity λ_m	895	905	915	nm
Spectral bandwidth $\Delta\lambda$ at 50 % intensity points		7		nm
Wavelength temperature coefficient		0.28		nm/ $^{\circ}\text{C}$
Beam spread (50 % peak intensity) Parallel to junction plane \parallel		11		Degrees
Perpendicular to junction plane \perp		25		Degrees



OPTICAL CHARACTERISTICS

at $t_{RT} = 21\text{ °C}$, $t_W = 100\text{ ns}$, $P_{rr} = 1\text{ KHz}$, $I_F = 30\text{ A}$

Parameter	905D1S3J08X	905D2S3J08X	905D3S3J08X
Number of element	1 x 3	2 x 3	3 x 3
P_O at i_{FM} , (min)	70 W	140 W	210 W
Emitting area	200 x 10 μm	200 μm x 125 μm	200 μm x 250 μm
I_{th} typ.	750 mA	750 mA	750 mA

ABSOLUTE MAXIMUM RATINGS

Maximum ratings	Limiting values
Peak reverse voltage	3 V
Max. peak forward current I_{FM}	40 A
Pulse duration	
Single element	100 ns
Stacks	100 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



Figure 1: Optical Output Power vs. Forward Current

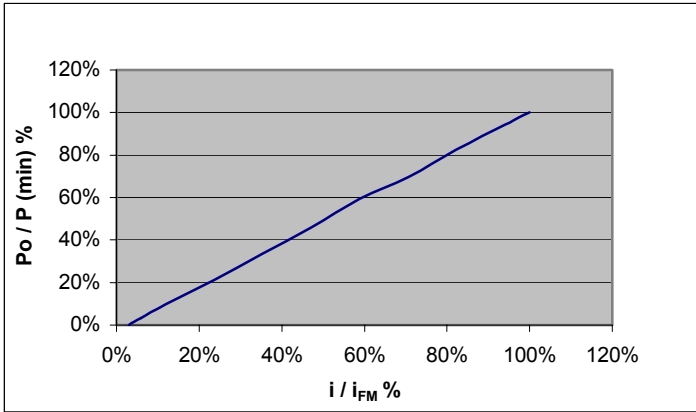


Figure 2: Optical Output Power vs. Temperature

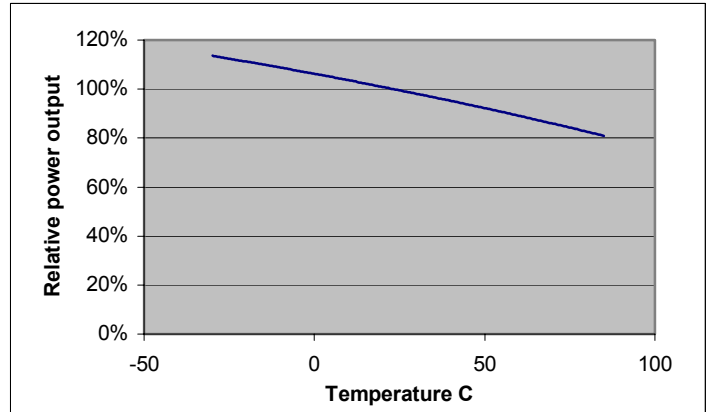


Figure 3: Wavelength vs. Temperature

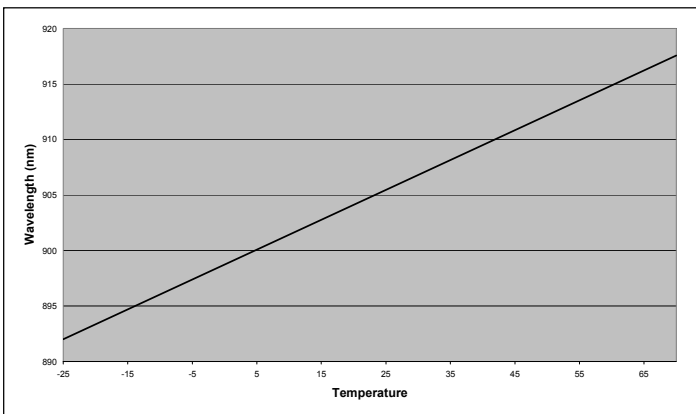


Figure 4: Far Field Emission Pattern Parallel to Junction Plane

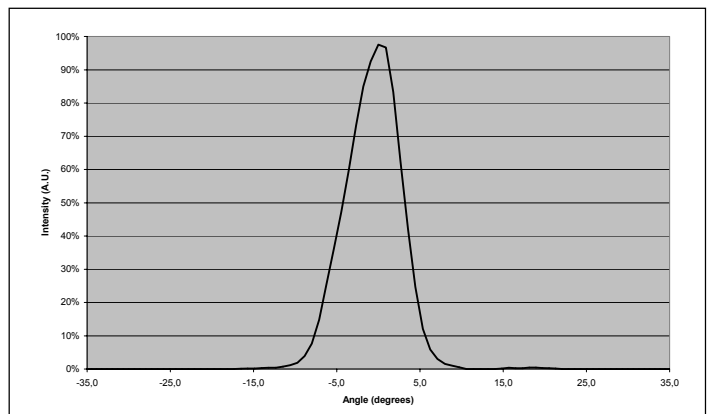
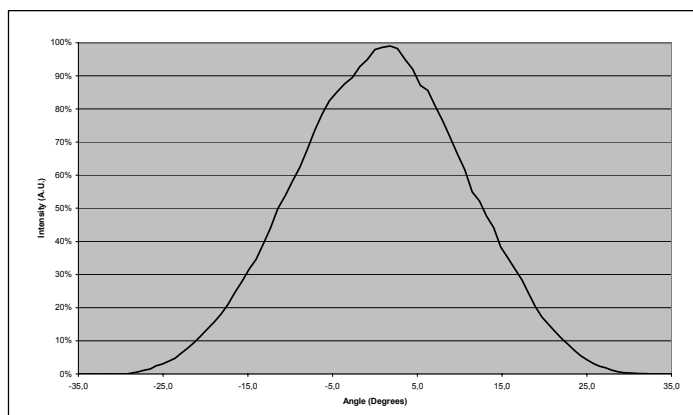


Figure 5: Far Field Emission Patter Perpendicular to Junction Plane



PRODUCT NUMBER DESIGNATION

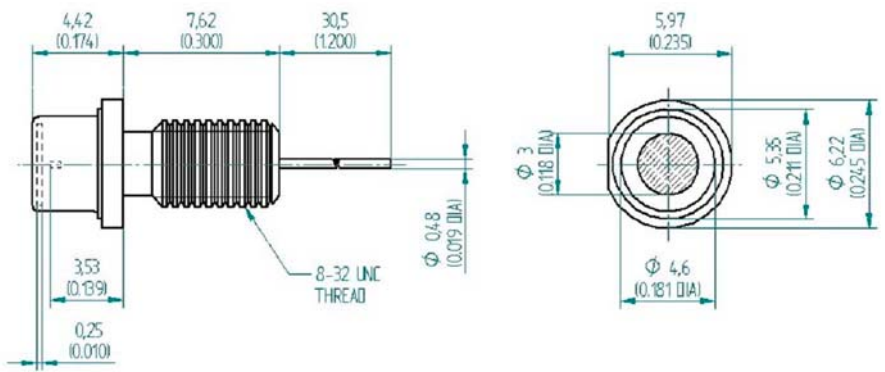


Diode Configuration
1S = single stack
2S = double stack
3S = triple stack

Package Style
C = 8 - 32 coax
R = 9 mm CD
S = TO-18
U = 5.6 mm CD
Y = ceramic

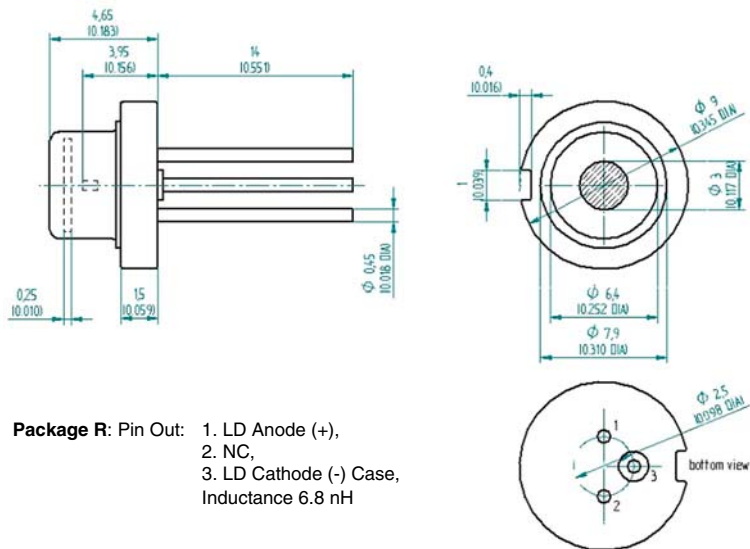
PACKAGE DRAWINGS

Package C 8 - 32 coax



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

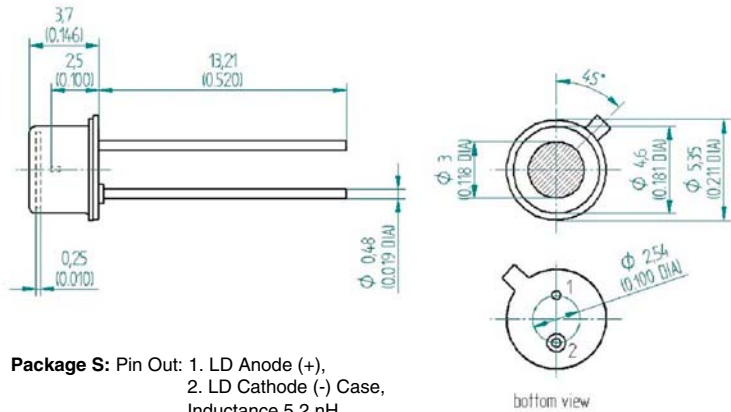
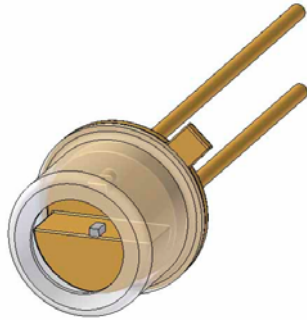
Package R 9 mm CD



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

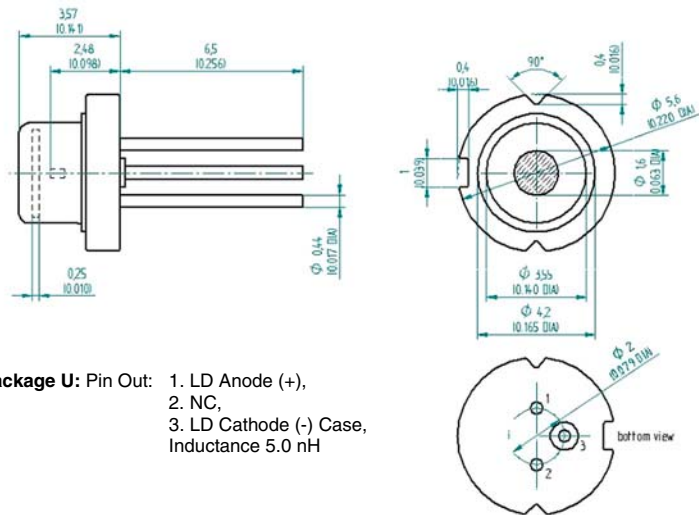


Package S TO-18



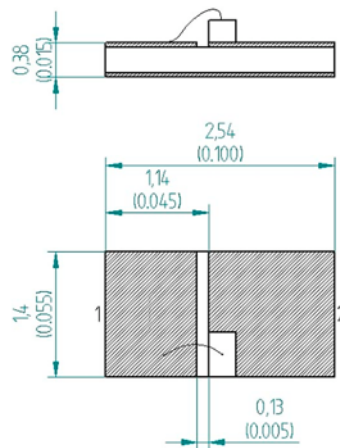
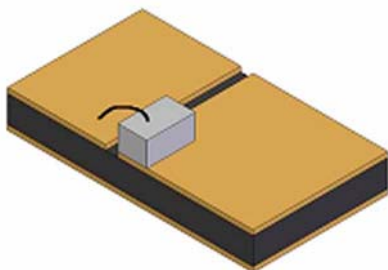
Package S: Pin Out: 1. LD Anode (+), 2. LD Cathode (-) Case, Inductance 5.2 nH

Package U 5,6 mm CD



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

Package Y ceramic carrier



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



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.

