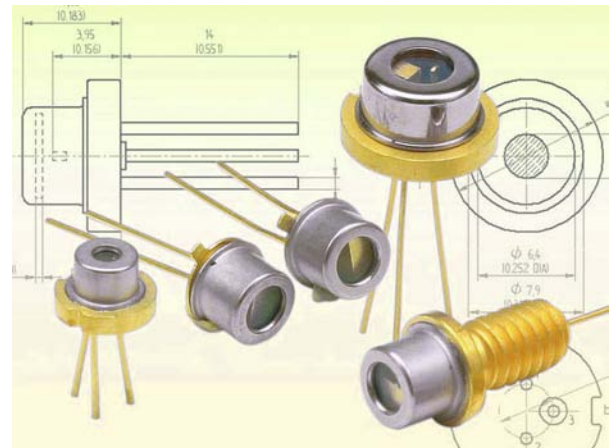


High Power Multi-Junction Pulsed Laser Diodes 905D1S3J0XX



FEATURES

- Multi-junction devices up to 75 W
- 75 μm , 150 μm and 225 μm source size
- 2.6 W/A efficiency
- Proven InGaAs / GaAs high reliability structure
- High power multi-junction structure for narrow far field
- Excellent temperature stability
- Hermetic and custom designed package



APPLICATIONS

- Range finding
- Surveying equipment
- Weapons simulation
- Laser radar
- Obstacle detection
- Medical

OPTICAL CHARACTERISTICS AT $t_{RT}=21^{\circ}\text{C}$

	MIN	TYP	MAX	UNITS
Wavelength of peak radiant intensity λ	895	905	915	nm
Spectral bandwidth $\Delta\lambda$ at 50% intensity points		8		nm
Wavelength temperature coefficient		0.27		nm/ $^{\circ}\text{C}$
Beam spread (50% peak intensity)				
- Parallel to junction plane \parallel		12		Degrees
- Perpendicular to junction plane \perp		20		Degrees



OPTICAL CHARACTERISTICS AT $t_{RT}=21^{\circ}\text{C}$, $t_w=150\text{ ns}$, $P_r=3.33\text{ kHz}$

PARAMETER	905D1S3J03X	905D1S3J06X	905D1S3J09X
P_O at i_{FM} (typ)	25 W	50 W	75 W
Emitting area	85 x 10 μm	160 x 10 μm	235 x 10 μm
I_{th} typ.	300 mA	500 mA	800 mA
I_{MAX} at 100 ns	11 A	22 A	30 A
Forward voltage at I_{MAX}	12 V	11 V	11 V

ABSOLUTE MAXIMUM RATINGS

Maximum ratings	Limiting values
Peak reverse voltage	6 V
Pulse duration	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



Figure 1:
Output power vs. forward current (905D1S3J0XX)

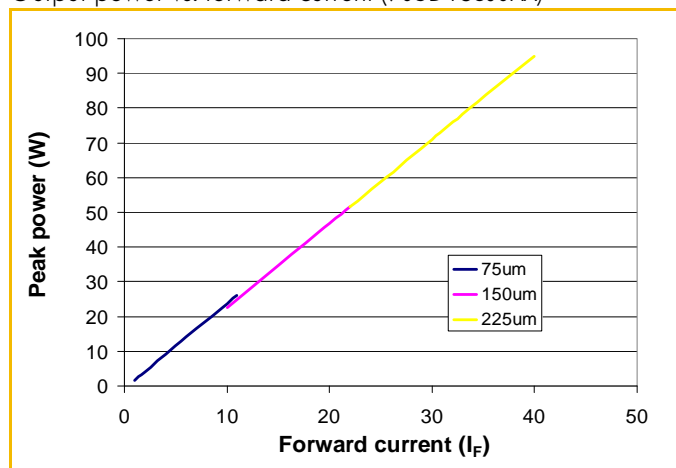


Figure 2:
Output power vs. temperature

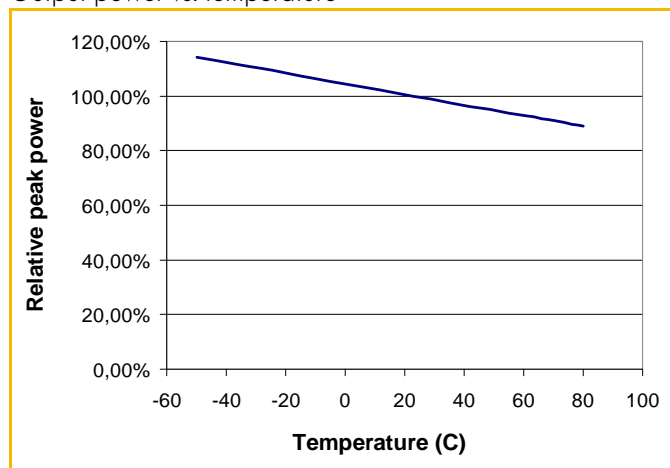


Figure 3:
Wavelength vs. temperature

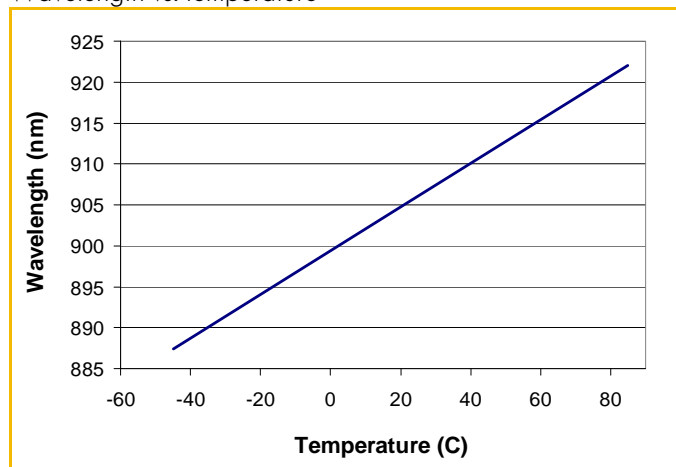


Figure 4:
Output power vs. cone half angle

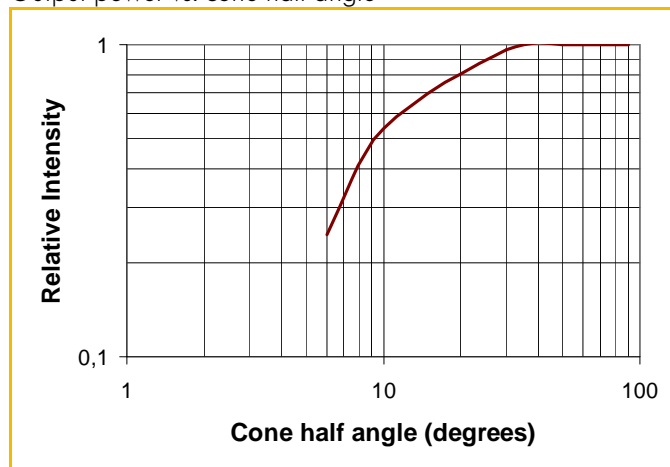


Figure 5:
Spectral intensity distribution

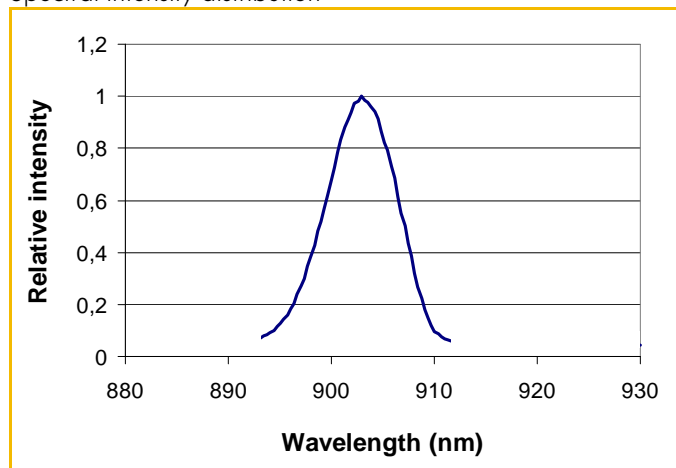


Figure 6:
Far field emission parallel and perpendicular to junction plane

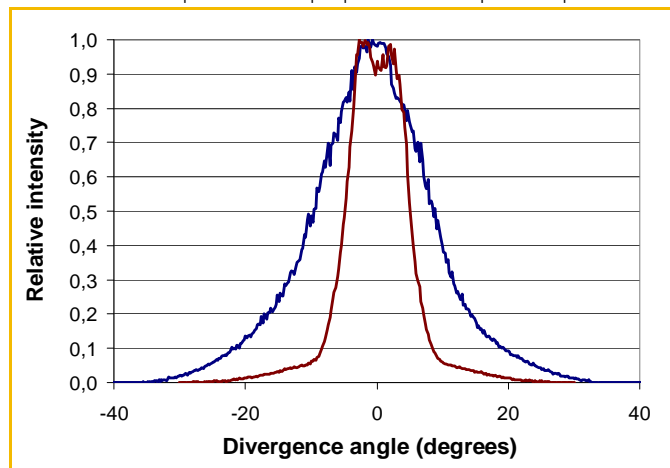
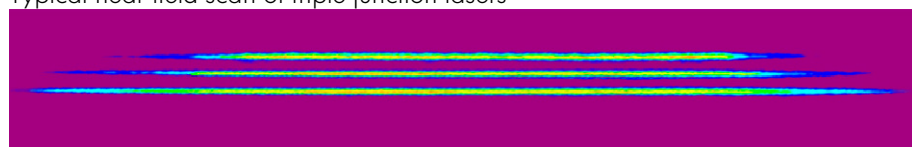


Figure 7:
Typical near field scan of triple junction lasers



PRODUCT NUMBER DESIGNATION

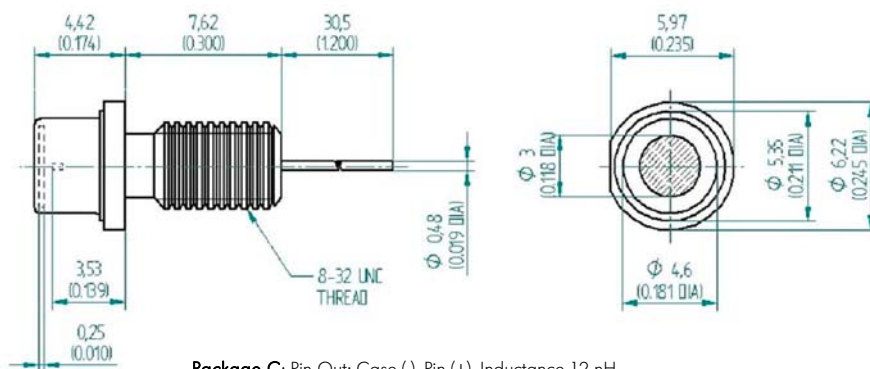
9 0 5 D 1 S 3 J X X X

Emitting Stripe width
03= 75 µm
06= 150 µm
09= 225 µm

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

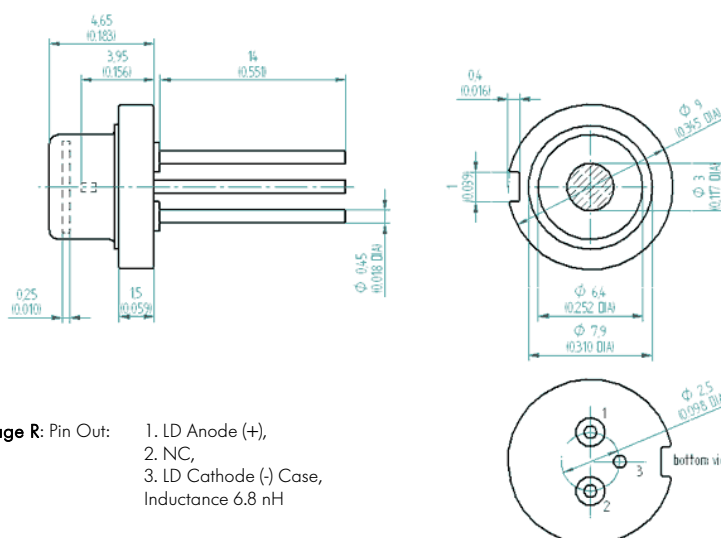
PACKAGE DRAWINGS

Package C 8 – 32 coax



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

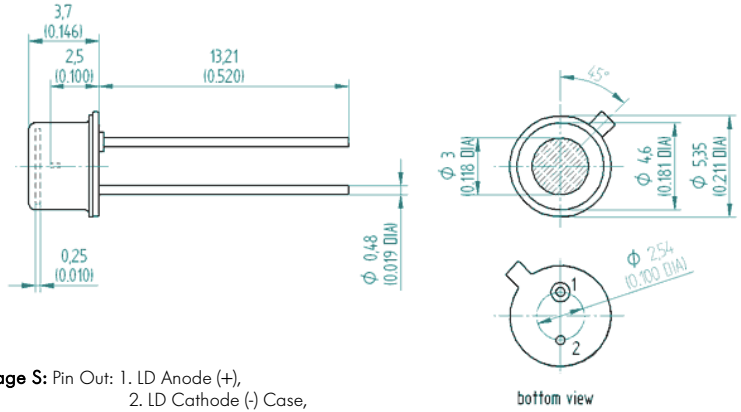
Package R 9 mm CD



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

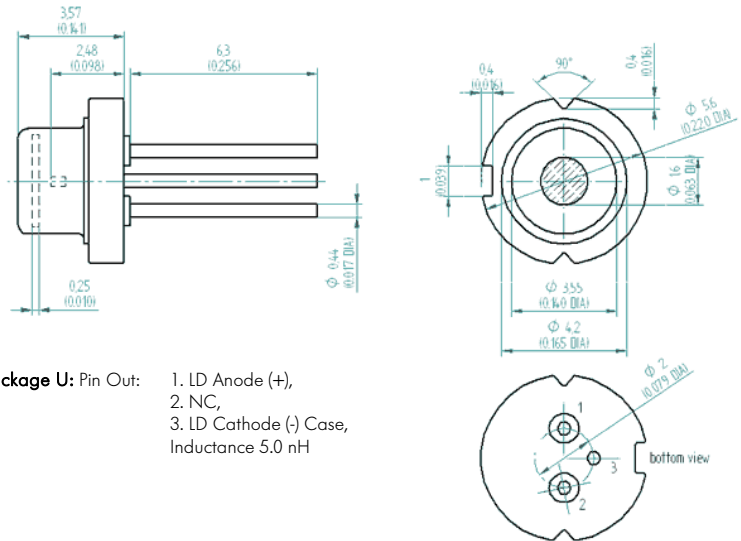


Package S TO-18



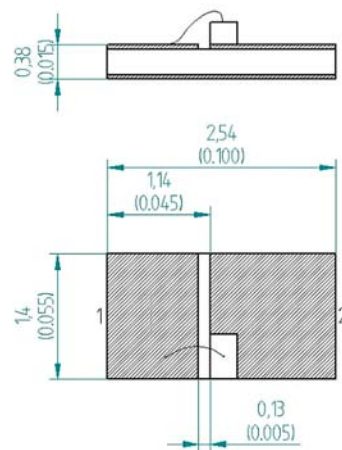
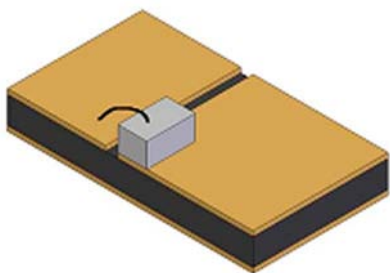
Package S: Pin Out: 1. LD Anode (+),
2. LD Cathode (-) Case,
Inductance 5.2 nH

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.



10/09 / V3 / HW / lcc/ 9051s3j0xx.doc

