Laser Diodes

LASER COMPONENTS®

FAC-Series 905 nm High Power Pulsed Laser Diodes with Fast Axis Collimators

Features

- Fast axis collimation
- Hermetic package
- Extremely robust
- High reliability

Applications

- Laser range finding
- Surveying equipment
- Laser radar
- Security barrier

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

	Min	Typ	Max	Units
Wavelength of peak radiant intensity λ	895	905	915	nm
Spectral width Δλ at 50% intensity points at i_{FM}		5		nm
Wavelength temperature coefficient		0.27		nm/°C
Divergence, w.r.t. junction plane Parallel, ∥ Perpendicular, ⊥ with 590 µm EFL lens		10	 33	 Degrees mrad

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Typical Product Characteristics

Conditions are t_{RT}= 21°C, t_w= 150 ns, P_{rr}= 3.33 kHz

	905D1S3JT03SCB	905D1S3JT06SCB	905D1S3JT09SCB
Po at I_{FM} (min.)	40 W	80 W	115 W
Emitting area	85 x 10 µm	160 x 10 µm	235 x 10 µm
Max. current I_{FM}	13.5 A	27 A	40 A
Threshold, I_{TH}	400 mA	600 mA	700 mA
Forward voltage at I_{FM}	9 V	12 V	13 V

Absolute Maximum Ratings

Maximum ratings	Limiting values
Peak reverse voltage	36 V
Pulse duration	150 ns
Duty factor	0.10%
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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Fig. 1: Power vs. Forward Current

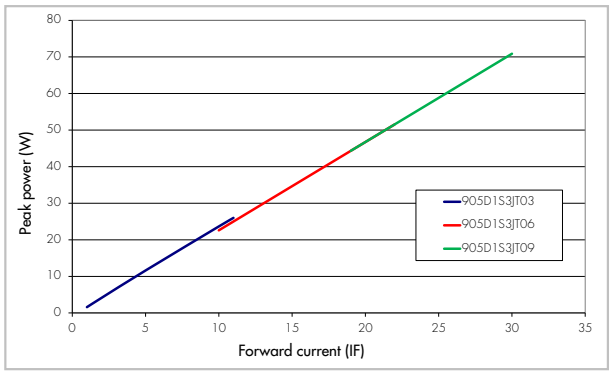

Fig. 2: Spectral Intensity Distribution

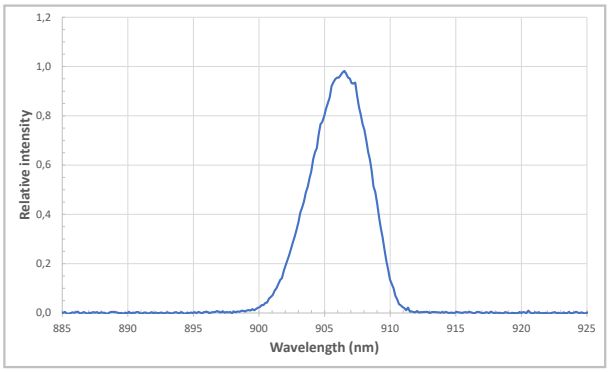

Fig. 3: Output Power vs. Temperature

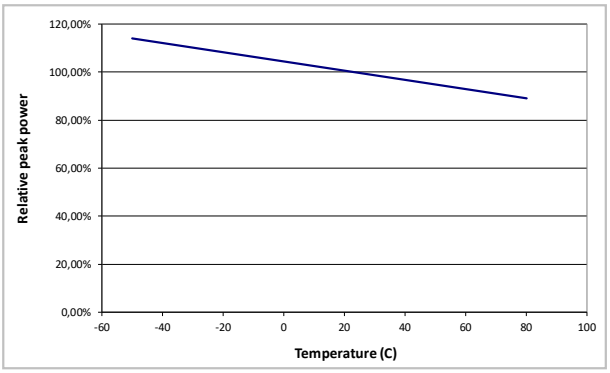

Fig. 4: Wavelength vs. Temperature

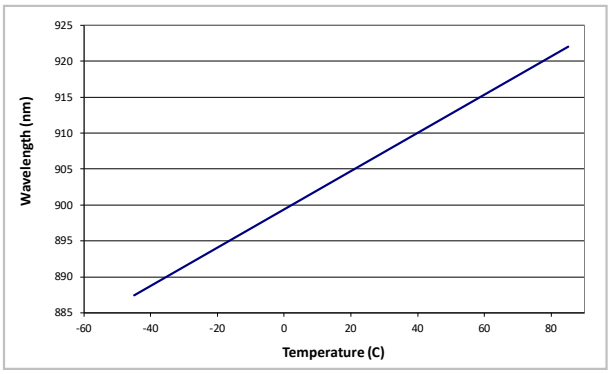

Fig. 5: Series Static V_f

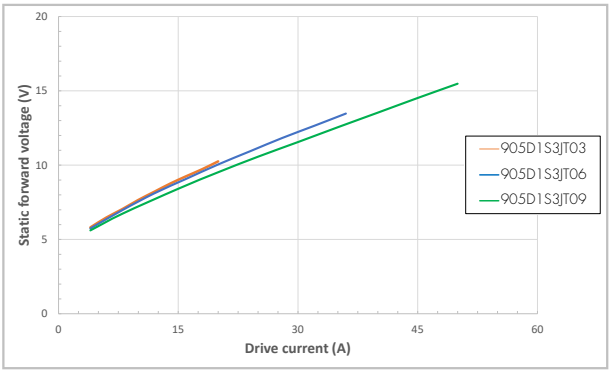

Fig. 6: Typical Beam Profile

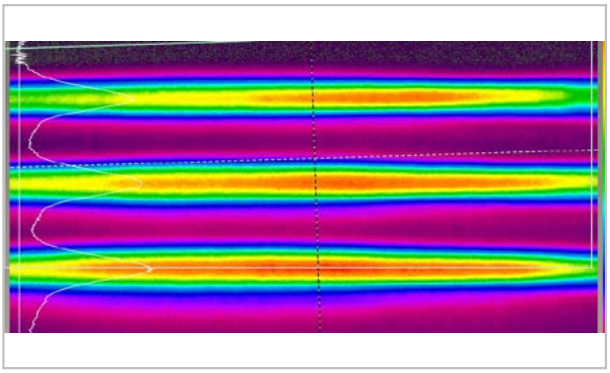

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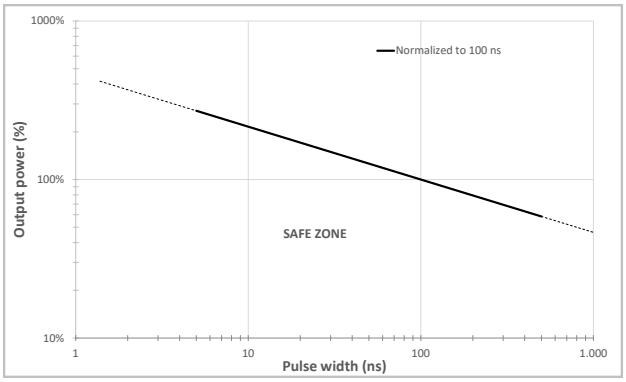
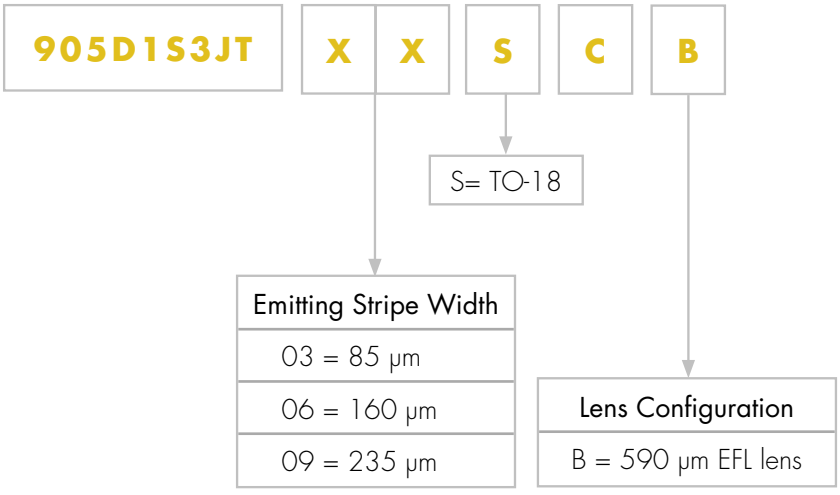
Figure 10:
Safe operating limits at maximum duty factor



Product Number Designations



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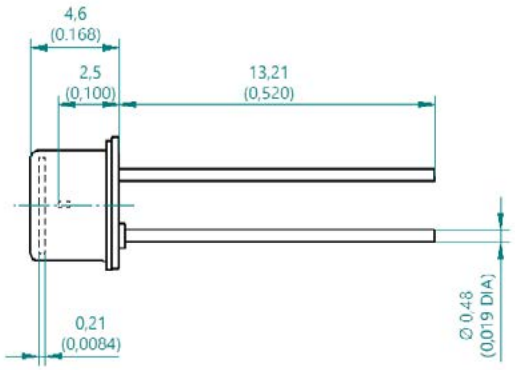
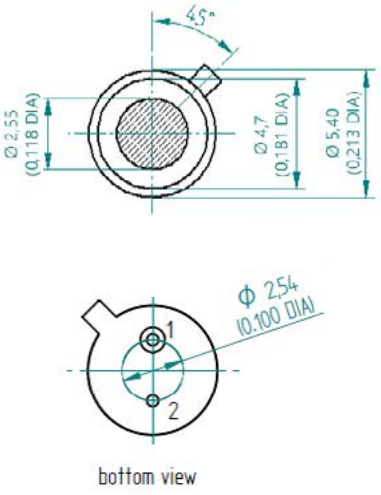
Package Drawings

Package S TO-18





Package S: Pin Out:

1. LD Anode (+),
2. LD Cathode (-) Case, Inductance 5.2 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.

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