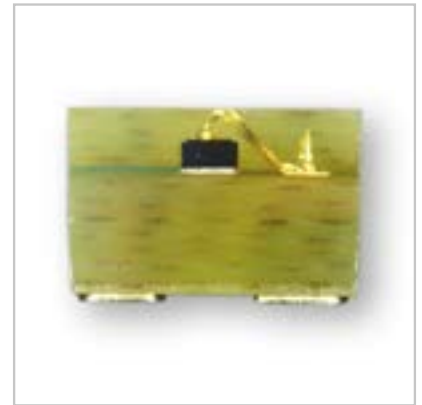


High Power Multi-Junction Pulsed Laser Diodes 905D1S3JT0XSMD

Features

- Multi-junction device up to 120 W
- Low inductance package (1 nH) suitable for short pulses
- 75 μm , 150 μm , and 225 μm source size
- Proven InGaAs / GaAs high reliability structure
- High power multi-junction structure for narrow far field
- Excellent temperature stability
- Reflow surface mount device MSL3 rating
- Top or side-looking



Applications

- LIDAR
- Range finding
- Surveying equipment
- Obstacle detection
- Medical

Optical Characteristics at $t_{RT} = 21\text{ }^{\circ}\text{C}$, I_{FM}

	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		10		Degrees
Perpendicular to junction plane \perp		23		Degrees

Optical Characteristics at 21 °C , 5 ns, 10 Khz

Parameter	905D1S3JTOXSMD
Power	120 W
Emitting area	235 x 10 µm
Forward voltage at 35 A	8 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
Max. soldering temperature	235 °C (see figure 5) max 250 and recommend 235

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Figure 1:
Output power vs. forward current

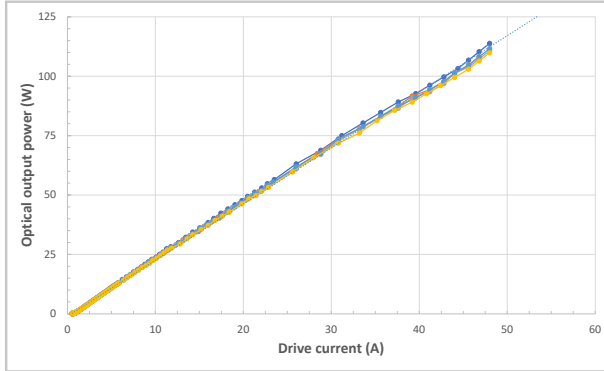


Figure 2:
Spectral intensity distribution

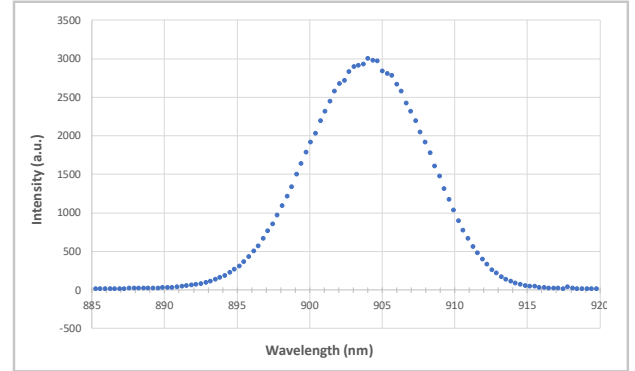


Figure 3:
Near field beam profile

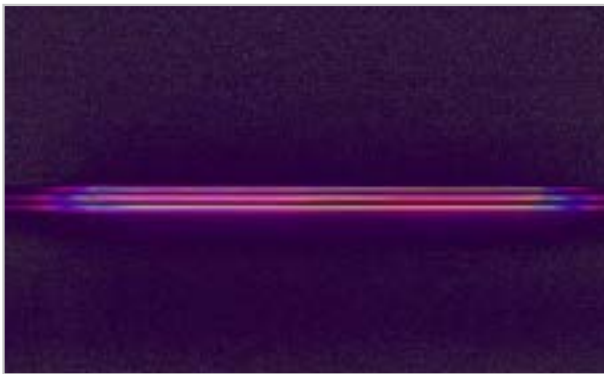


Figure 4:
Far field beam profile

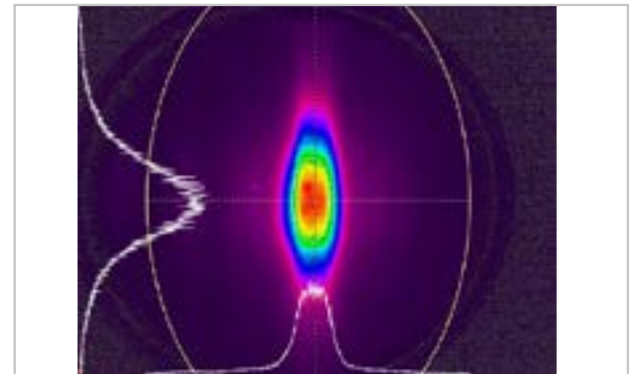
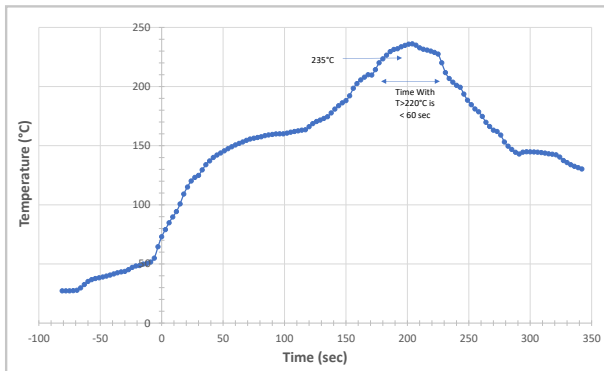


Figure 5:
Typical recommended soldering reflow profile

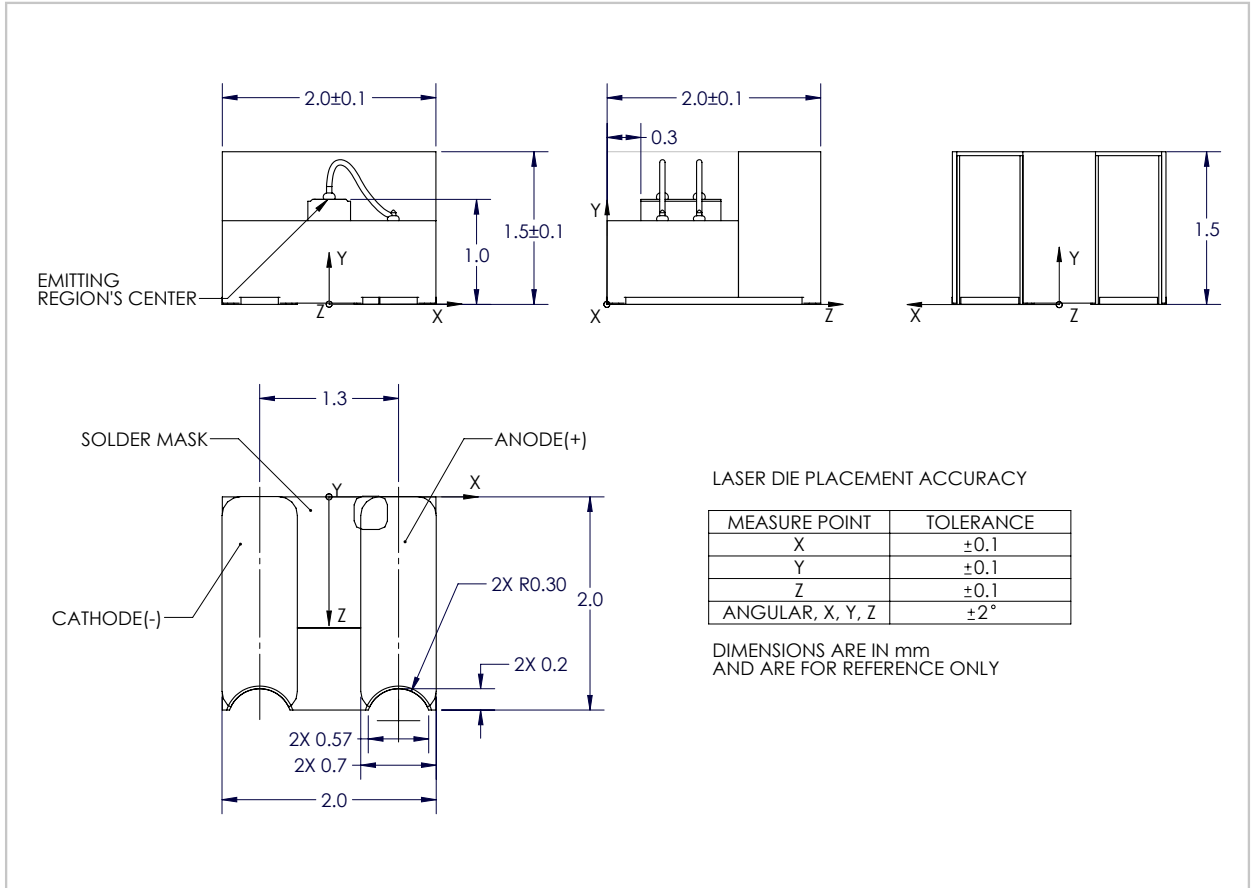


Note:

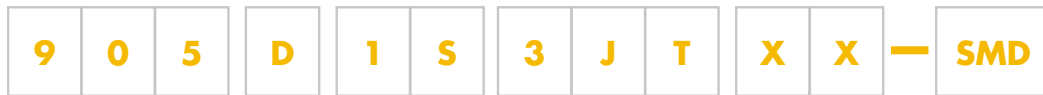
Reflow oven profile must follow J-STD-020 JEDEC Standard with the following recommendations:

- Max. temperature must not exceed 235 °C
- Time with T > 220 °C must not exceed one minute
- Two reflow cycles max.
- Hand soldering, max. temperature 250 °C, below 30 s

Figure 6:
Package drawing



Product Number Designations



Emitting Stripe Width

03 = 75 μm

06 = 150 μm

09 = 225 μm

Footprint is available upon request.

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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