Laser Diodes

High Power Multi-Junction Pulsed Laser Diodes 905D1S3J0XSMD

Features

- Multi-junction devices up to 70 W
- 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 solderable surface mount package
- Top or side-looking

Applications

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

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

	Min	Typ	Max	Units
Wavelength of peak radiant intensity λ	895	905	915	nm
Spectral bandwidth Δλ at 50% intensity points		8		nm
Wavelength temperature coefficient		0.27		nm/°C
Beam spread (50% peak intensity)				
Parallel to junction plane ∥		10		Degrees
Perpendicular to junction plane ⊥		23		Degrees

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Optical Characteristics at t_{RT}= 21°C, 30 A, 100 ns, 1 kHz

Parameter	905D1S3J09SMD
P_O at 30 A (typ.)	70 W
Emitting area	235 x 10 µm
I_{TH} typ	750 mA
I_{TYP} at 100 ns	30 A
Forward voltage at I_{MAX} (typ.)	8.5 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)

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Figure 1:
Output power vs. forward current

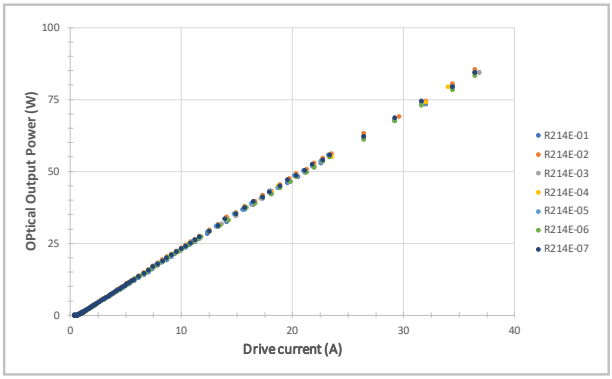


Figure 2:
Spectral intensity distribution

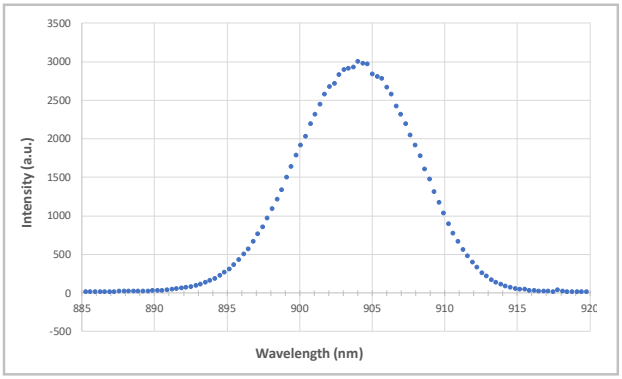


Figure 3:
Near field beam profile

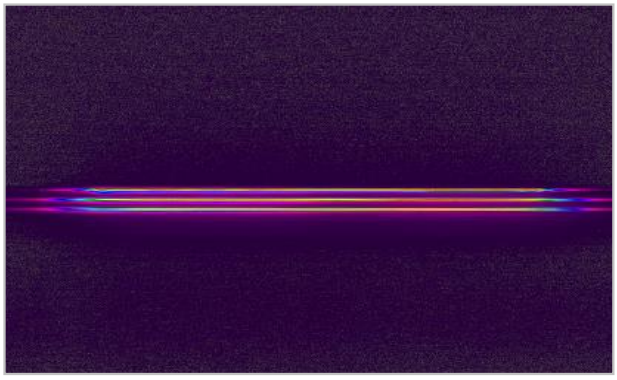


Figure 4:
Far field beam profile

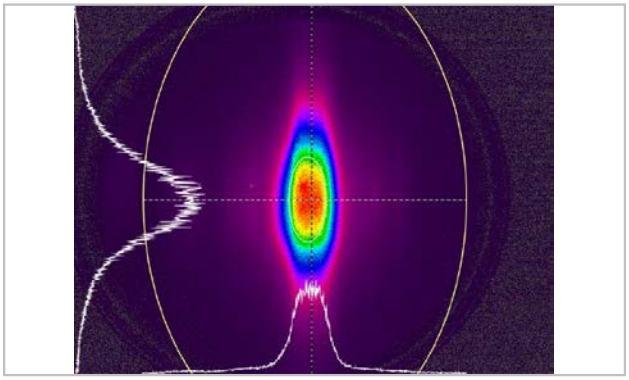
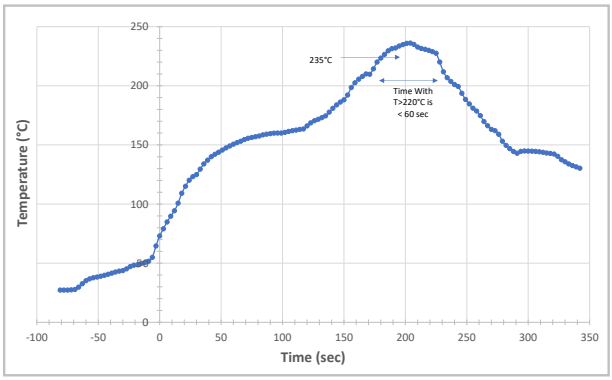


Figure 5:
Typical recommended soldering reflow profile



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

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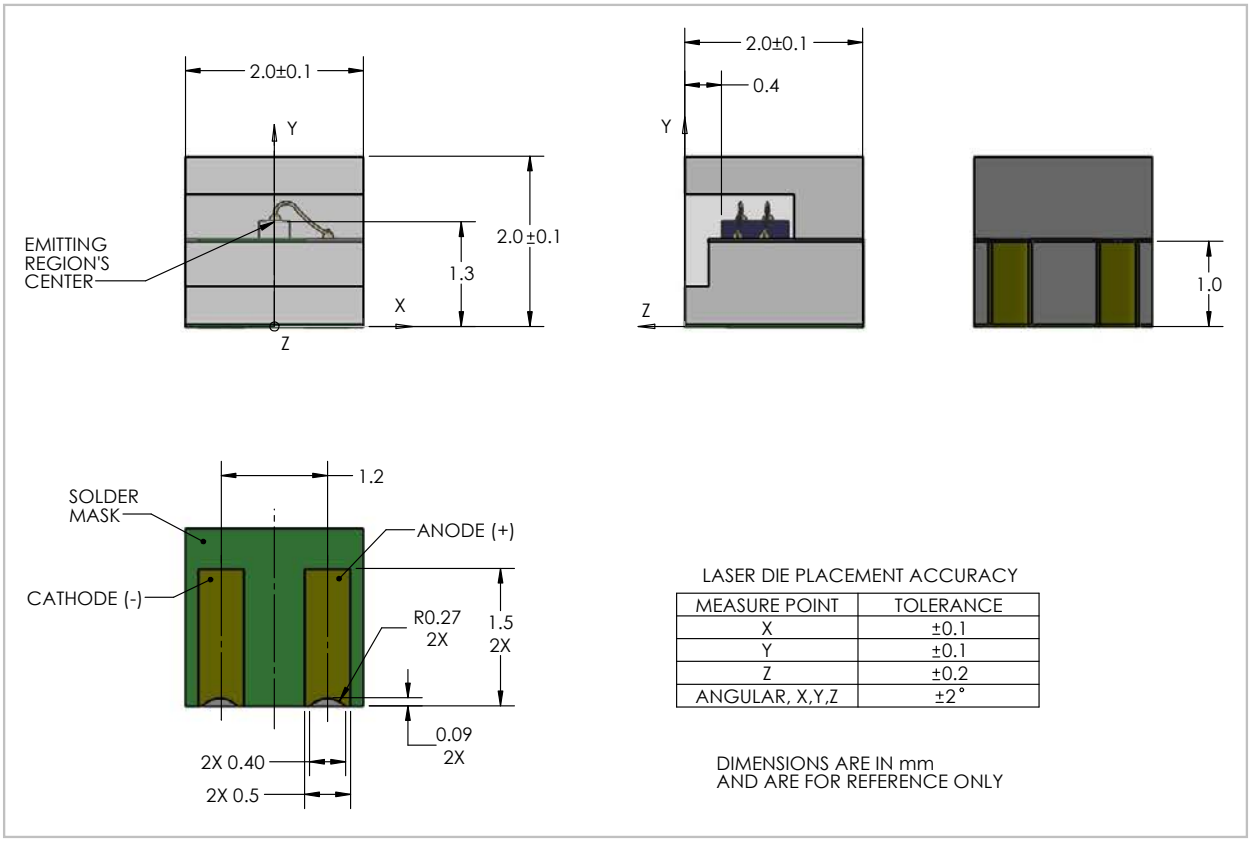
Figure 6:
Package drawing



Product Number Designations

9	0	5	D	1	S	3	J	X	X	—	SMD

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

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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.

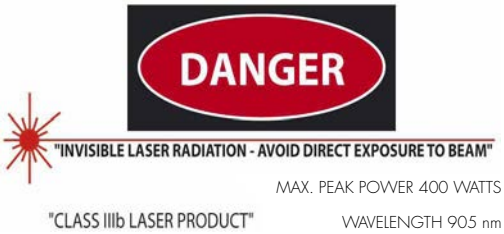
Laser Safety

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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