

High End / Low Cost Pulsed Laser Diode 905D1S3J03UA-0195

Features

- Multi-junction device
- Hermetic 5.6 mm CD package
- Excellent temperature stability
- Ultra precise mechanical tolerances
- Fully RoHS compliant

Applications

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



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 $t_{RT} = 21^{\circ}\text{C}$, $t_w = 20\text{ ns}$, $P_{rr} = 1\text{ kHz}$

Parameter	905D1S3J03UA-0195	Units
P_o at I_{FM} (typ)	33	W
Emitting area	85×10	μm
Max. peak current I_{FM} at $150\text{ ns } t_w$	17	A
Threshold I_{th}	500	mA
Forward voltage at I_{FM}	9.5	V

Absolute Maximum Ratings

Maximum ratings	Limiting values
Peak reverse voltage	6 V
Temperature	
- Storage	-55 °C to +100 °C
- Operating	-45 °C to +85 °C
Lead soldering	
- 5 seconds max at	200 °C

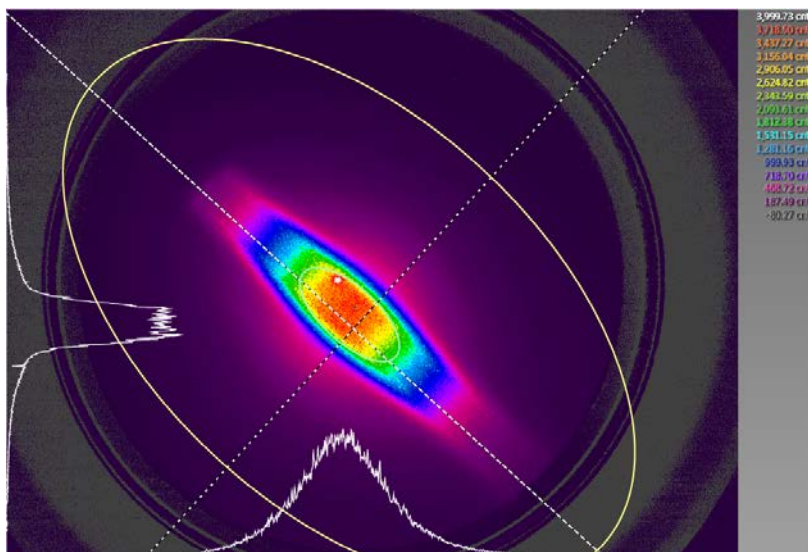


Figure 1: Optical Output Power vs. Forward Current (triple junction units)

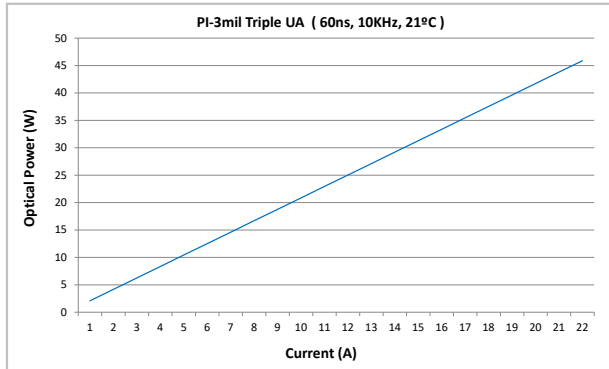


Figure 2: Optical Output Power vs. Temperature

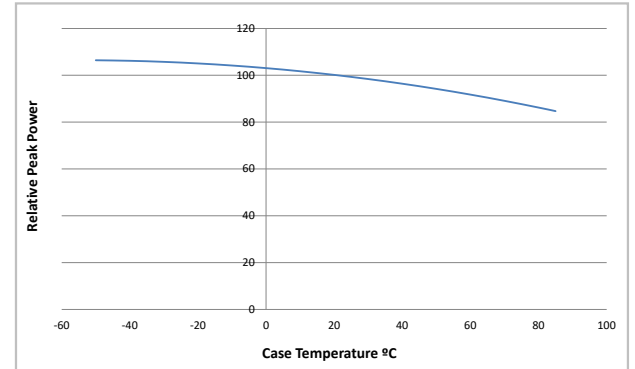


Figure 3: Optical Output Power vs. F#

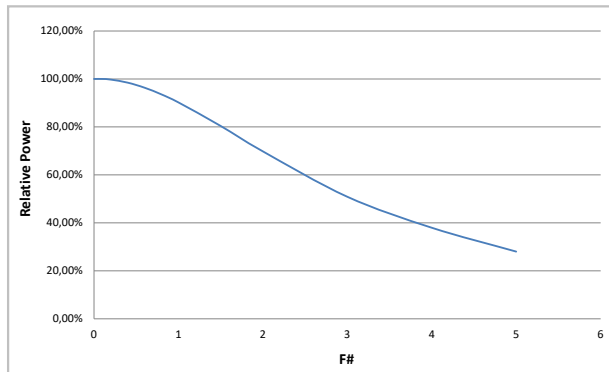


Figure 4: Wavelength vs. Temperature

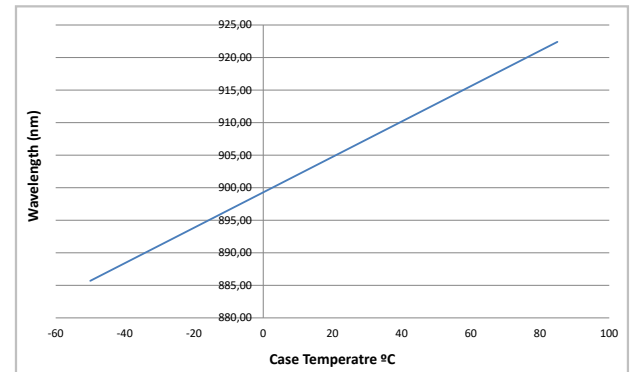
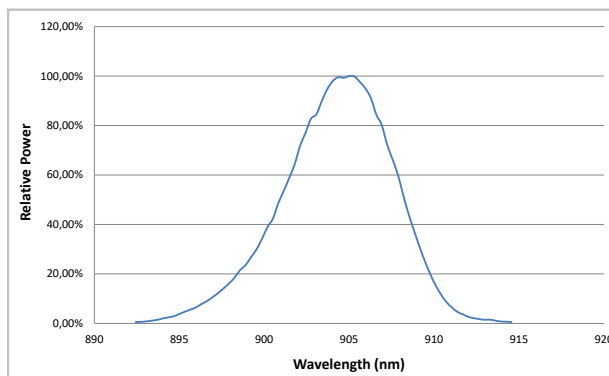


Figure 5: Typical Spectral Plot

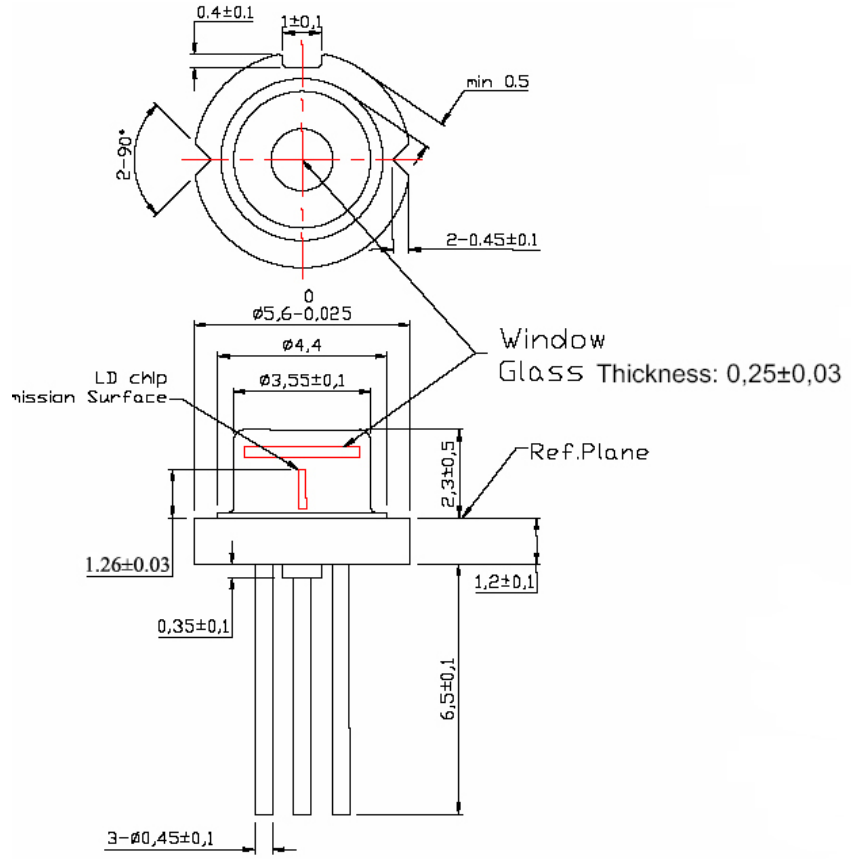


Product Number Designation

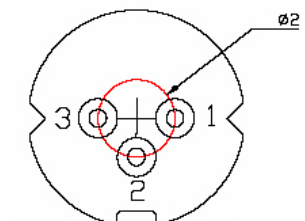


Package Drawings

Package UA 5.6 mm CD



Bottom view:



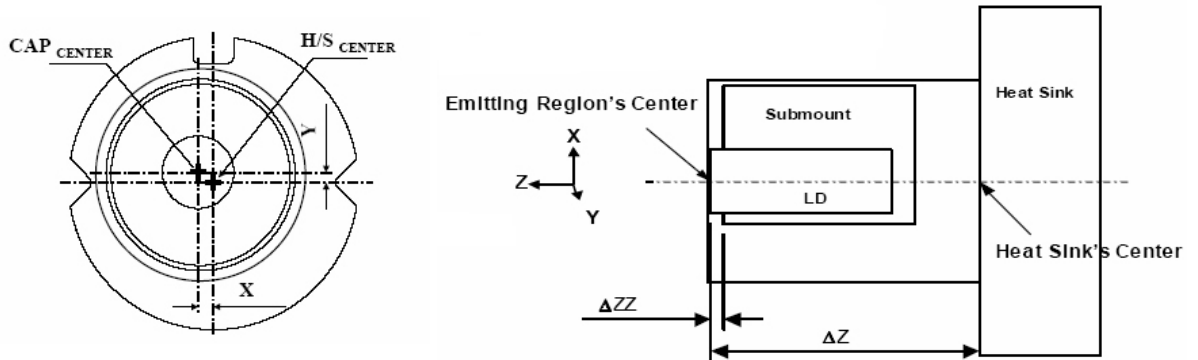
Package U: Pin Out: 1. LD Anode (+),
2. LD Cathode (-) Case,
3. NC,
Inductance 5.0 nH

Die Placement Accuracy

Measuring Point	Tolerance
LD	ΔX $0 \pm 50 \mu\text{m}$
	ΔY $0 \pm 50 \mu\text{m}$
	ΔZ $1260 \pm 30 \mu\text{m}$
	$\Delta\theta$ $0 \pm 2^\circ$

Die Placement Accuracy

Measuring Point	Tolerance
Cap	X $0 \pm 100 \mu\text{m}$
	Y $0 \pm 100 \mu\text{m}$



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.

