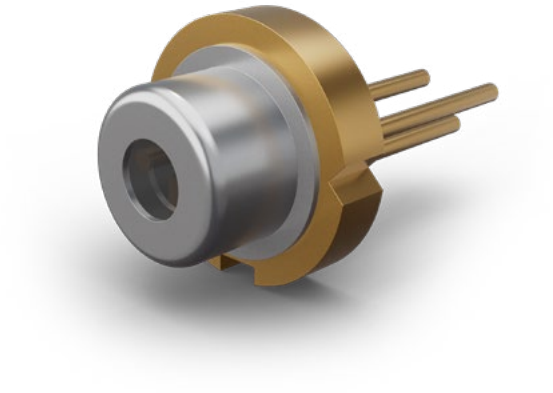
HIGH VOLUME 850 nm PULSED LASER DIODES

Laser Diodes



850 nm laser diodes deliver high reliability, excellent temperature stability, and superior beam characteristics. They are well suited for range finding, speed monitoring, and traffic control applications, including laser radar, traffic counting, vehicle classification, distance measurement, and fog detection. Additional applications include security scanners, laser light curtains, and test and measurement systems.

FEATURES

/ Proven AlGaAs high reliability structure
/ 0.9 W/A efficiency
/ Excellent temperature stability
/ Hermetic TO56 package

APPLICATIONS

/ Range finding
/ Surveying equipment
/ Laser radar
/ Security barrier
/ Optical trigger

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11/26 / V1 / HM-HW / lc-pld/850dIs0xua-high-volume-850nm-pld

SPECIFICATIONS

Generic Optical Characteristics at t_{RT} = 25 °C and I_{FM}

	Min	Typ	Max
Wavelength of peak radiant intensity λ [nm]	840	850	860
Spectral bandwidth Δλ at 50 % intensity points [nm]		5	
Wavelength temperature coefficient [nm/°C]		0.27	

Single Chip Characteristics at t_{RT} = 21 °C, t_w = 150 ns, P_{rr} = 3 kHz

Parameter	850D1S03UA	850D1S09UA
Output P_O at I_{FM} (typ.) [W]	5	16
Emitting area [µm]	75x1	225x1
Threshold current, I_{FM} (typ.) [mA]	300	600
Max. peak current, I_{FM} [A]	6	19
Beam spread (50% peak intensity [°] Parallel to junction plane ∥ Perpendicular to junction plane ⊥	 10.5 20	 12 25

Absolute Maximum Ratings

Maximum Ratings	Limiting Values
Peak reverse voltage [V]	6
Pulse duration [ns]	150
Duty factor [%]	0.1
Temperature [°C] Storage Operating	 -55 to +100 -45 to +85
Lead soldering [°C] 5 seconds max. at	260

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GRAPHS / CURVES

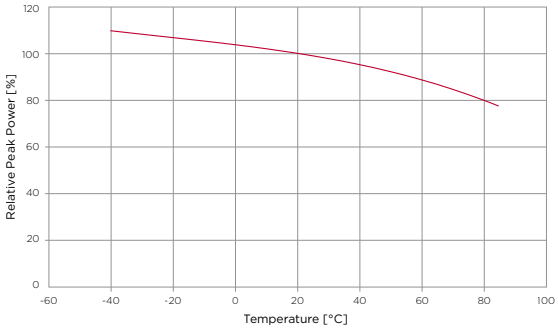


Figure 1: Relative Peak Power vs. Temperature

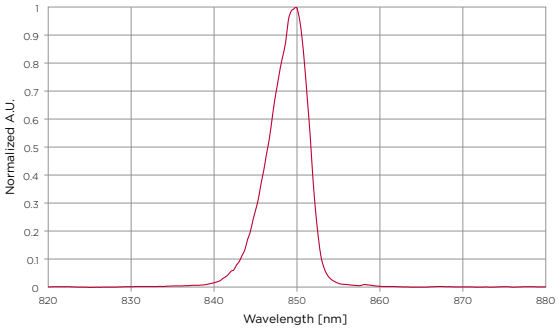


Figure 2: Spectral Intensity Distribution

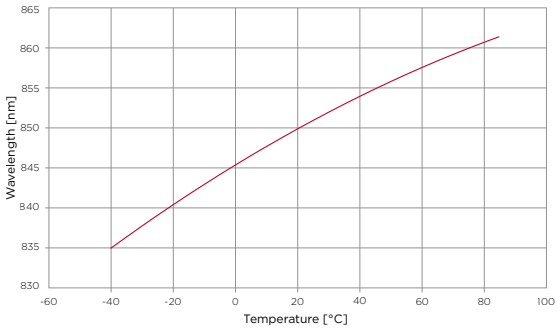
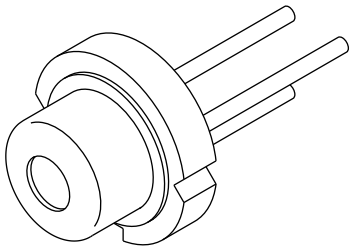


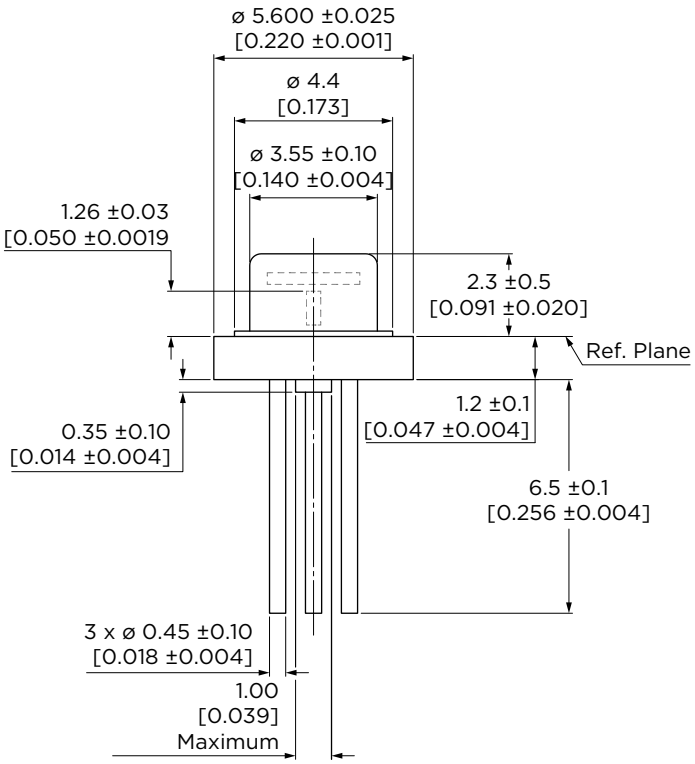
Figure 3: Wavelength vs. Temperature

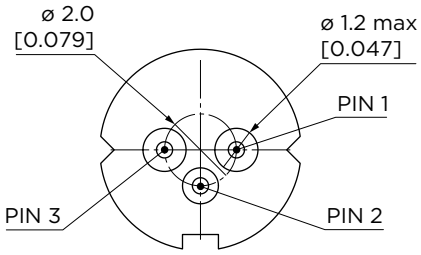
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TECHNICAL DRAWING

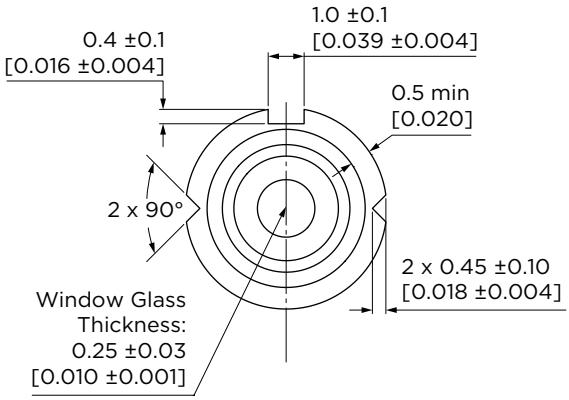
Package UA 5.6 mm CD







REAR VIEW



Package UA 5.6 mm CD
Pin out:

1. LD Anode (+)
2. LD Cathode (-) Case
3. NC

Case Inductance 5.0 nH

Units: mm [inch]
Dimensions are in millimeters - [inches] and are for reference only.

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ORDERING CODE

Wavelength	Tolerance	Device Type	Contact Stripe Width [µm]	Package Style
850	**D**	**1S**	**XX**	**UA**
850 nm		Single stack	**03** = 3 mil **09** = 9 mil	5.6 mm CD

PRODUCT CHANGES AND LIABILITY

LASER COMPONENTS reserves the right to make changes to the product specifications and/or discontinue products without prior notice. While every effort has been made to ensure the accuracy and reliability of the information provided in this datasheet, LASER COMPONENTS accepts no liability for any errors, omissions, or the consequences of product use. It is the responsibility of the customer to ensure that the product is suitable for their specific application and to comply with all applicable laws and regulations.

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.

SAFETY AND HANDLING INFORMATION

RoHS compliant

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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