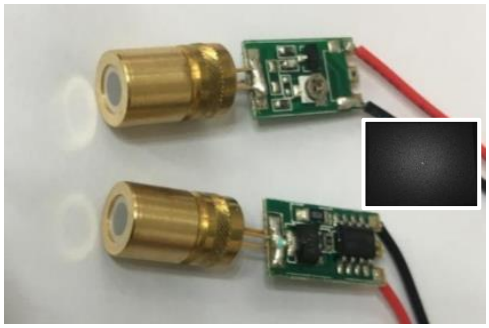
MDOE850C200R303 850nm DOE Laser Module

With Diffractive Optical Element 30,000 Random Dot Pattern, 3V PCB Driver



Overview

The MDOE850 series laser module is an 850nm laser module that can be integrated with different collimating DOE types. Designed for R&D purposes, the laser module comes with an adjustable focusing lens and with adjustable current to set the output power within a certain range.

Features

- Low distortion and high uniform pattern
- Flexible package for R&D evaluation
- Distance tunable projection
- PWM drivable
- IEC 60825 eye safety standards

Applications

- Structured light for 3D sensing
- Machine vision

Specifications

Electrical-Optical Characteristics						
Parameter	Symbol	Min.	Typ.	Max	Unit	Conditions
Threshold current	I_{th}	-	120	130	mA	25 °C
Operating current	I_{op}	-	430	470	mA	
Operating voltage	V_{op}	-	1.95	-	V	
Center wavelength	λ_c	840	850	860	nm	
Power input with PCB			3	3	V	25 °C, variable resistor included

Laser Diode Power Ratings				
Parameter	Symbol	Rating	Unit	Conditions
CW output power (max)		350	mW	
Operating temperature	T_{op}	-10 to 60	°C	
Storage temperature	T_{stg}	-40 to 85	°C	

Mechanical Characteristics	
Diameter	8mm
Length	14~15mm
PCB driver	9(W) x 12(L) x 3(H)mm

Notes:

- Length varies as the position of the collimating lens varies case by case.
- Total module length varies with the length of metal pins left after welding.

Optical Specifications

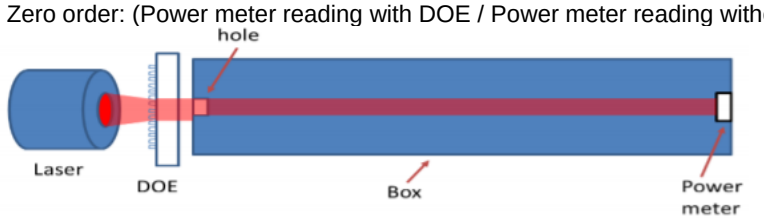
Lasermate Group, Inc.
19608 Camino De Rosa, Walnut, CA 91789, USA
Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: http://www.lasermate.com

Total dots	30,000
Field of View (FOV)	80° x 64.4° (HxV)
Contrast[1]	≧2.2
Uniformity[2] in FOV at 1m	≧20%
Zero order[3]	≦0.2%

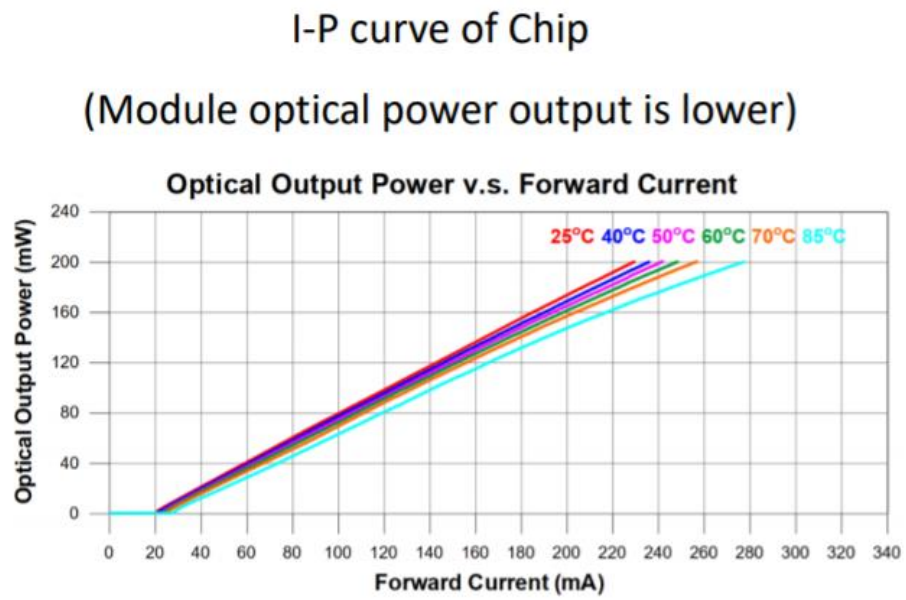
[1] Contrast: in the defined area, the ratio of the 95th percentile of the grayscale value over the mode grayscale value of the background, $C=I_{95\%}/I_{median}$

[2] Uniformity: the ratio of the grayscale value of the area at a given location to the grayscale value of the area in the center of the pattern, $U=I_{each\ area}/I_{max\ of\ each\ area}$

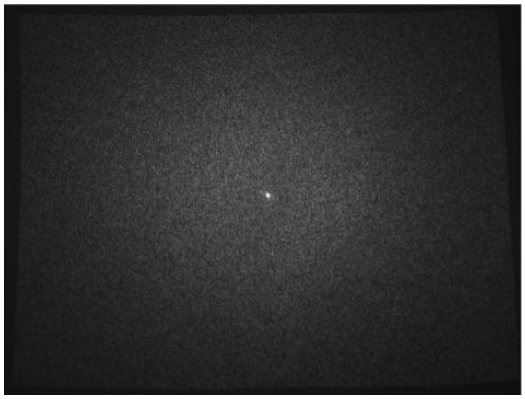
[3] Zero order: (Power meter reading with DOE / Power meter reading without DOE) x 100%



Typical Characteristics



Projection Pattern



Caution

- Treat heat dissipation before setting the module to full power

- Avoid touching the emitting area or optical components of the module.
- Never look directly at the light from the emitting area.

Additional Notes

- The laser modules are designated solely as OEM components for incorporation into the customer's end products. Therefore, it is the customer's responsibility to comply with the appropriate requirements of FDA 21CFR, section 1040.10 and 1040.11 for complete laser products. For the code of FDA regulations, please refer to FDA Performance Standards for Light-Emitting Products for detailed information.
- Specifications are subject to change without notice.

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