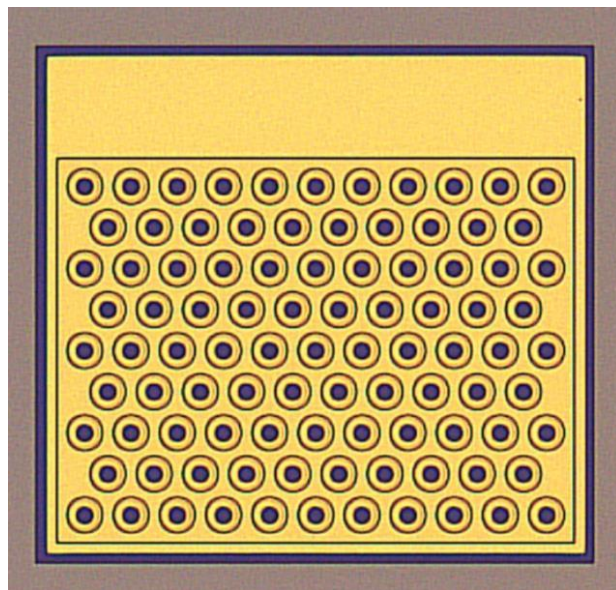


850nm 500mW VCSEL Laser Chip

Part No.: D-V0850M-0500-0023

Suitable for pulse power applications and the power is 500mW



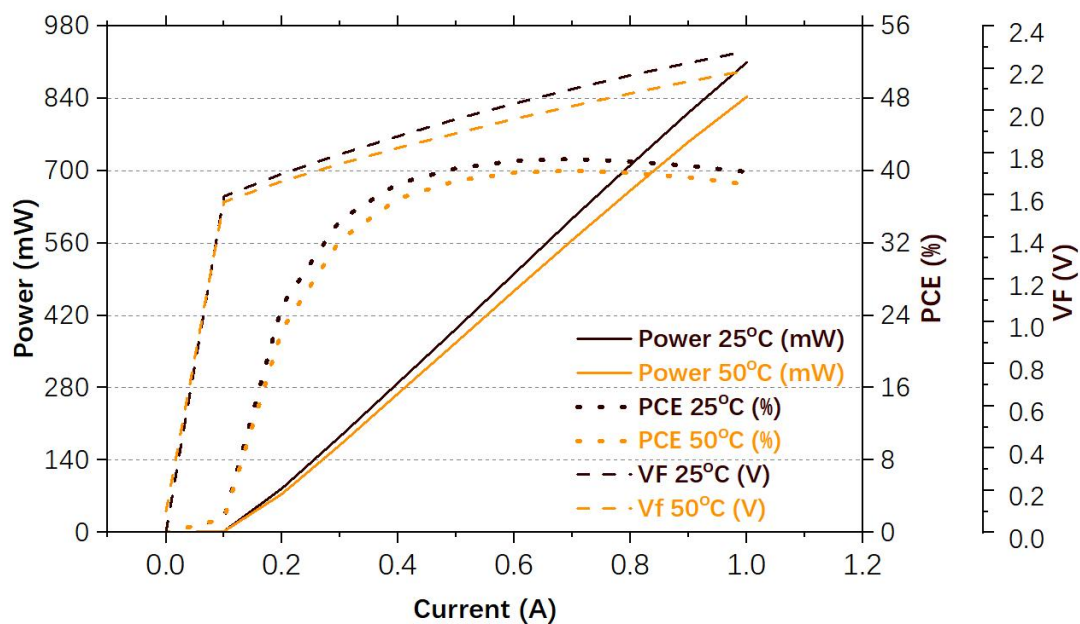
Features

- VCSEL (Vertical-Cavity Surface-Emitting Laser)
- High efficiency and reliability
- Stable central wavelength, narrow line width
- Doughnut shaped, symmetrical far field
- Surface mountable

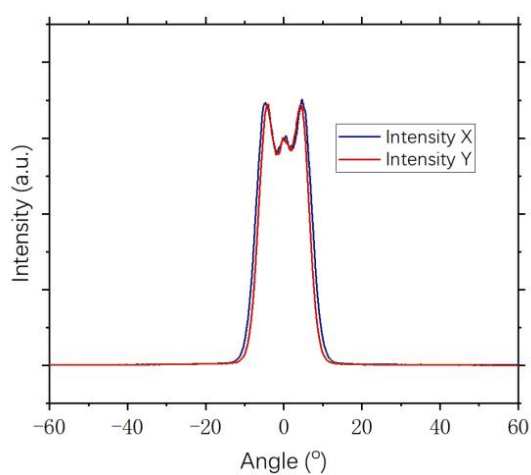
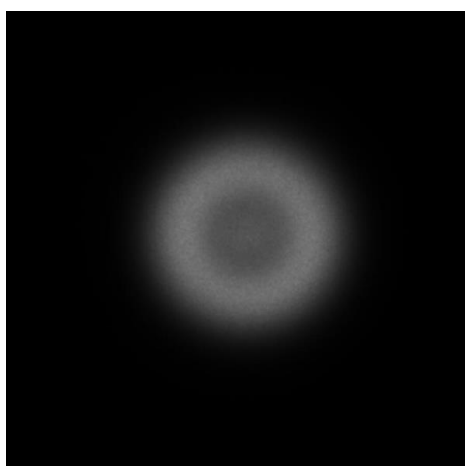
Applications

- Sensor light source
- Consumer electronic products
- Machine vision
- Red lighting
- Industrial

L-I-V Curve



FFDA (Far-Field Divergence Angle)



Electrical Optical Characteristics

Parameter	Symbol	Unit	Min.	Typ.	Max	Note
Threshold Current	I _{th}	mA	90	120	160	
Forward Voltage	V _F	V	1.9	2.1	2.3	IF =700mA
Differential Resistance	R _s	Ohms	--	0.7	--	
Slop Efficiency	SE	W/A	0.9	1.0	--	
Output Power	P _{op}	mW	500	580	--	IF =700mA
Power Conversion Efficiency	PCE	%	38	40	--	IF =700mA
Wavelength	λ _{op}	nm	840	850	860	
Divergence Angle(1/e ²)		deg	17	20	23	IF =700mA

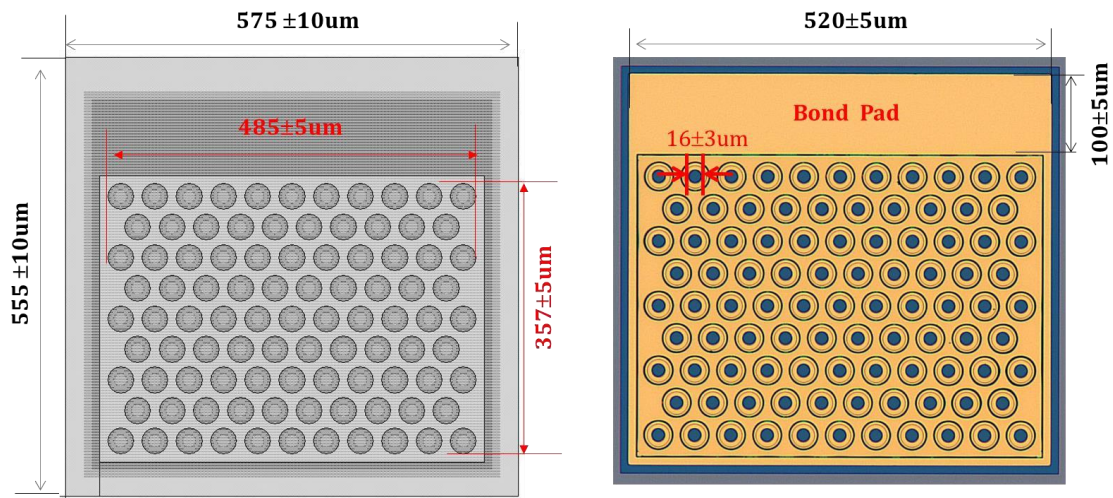
25°C, QCW Model (Pulse length 0.5ms, 1% Duty Cycle)

May 2022

The details in this document may subject to change without prior notice.

Email:info@deraysemi.com
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Mechanical Specifications



参数 Parameter	规格 Specification
芯片尺寸 Die size	$575 \pm 10 \mu\text{m} \times 555 \pm 10 \mu\text{m}$
芯片厚度 Die Thickness	$150 \pm 10 \mu\text{m}$
光孔数目 Number of Emitters	95
焊盘尺寸 (正极) Bond Pad Size (Anode Pad)	$520 \pm 5 \mu\text{m} \times 100 \pm 5 \mu\text{m}$
背面电极尺寸 (负极) Back Electrode Size (Cathode Pad)	$575 \pm 10 \mu\text{m} \times 555 \pm 10 \mu\text{m}$

