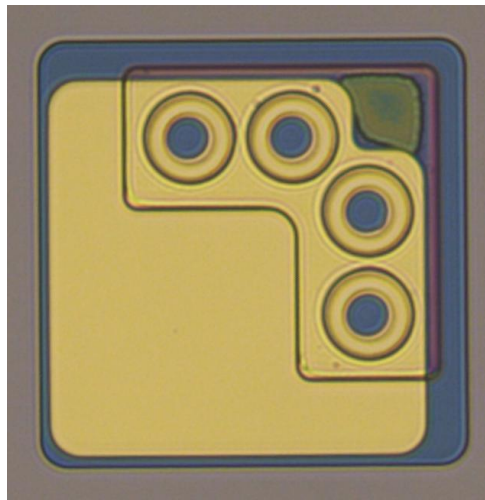


850nm 20mW VCSEL Laser Chip

Part No.: D-V0850M-0020-0007

Suitable for pulse power applications and the power is 20mW



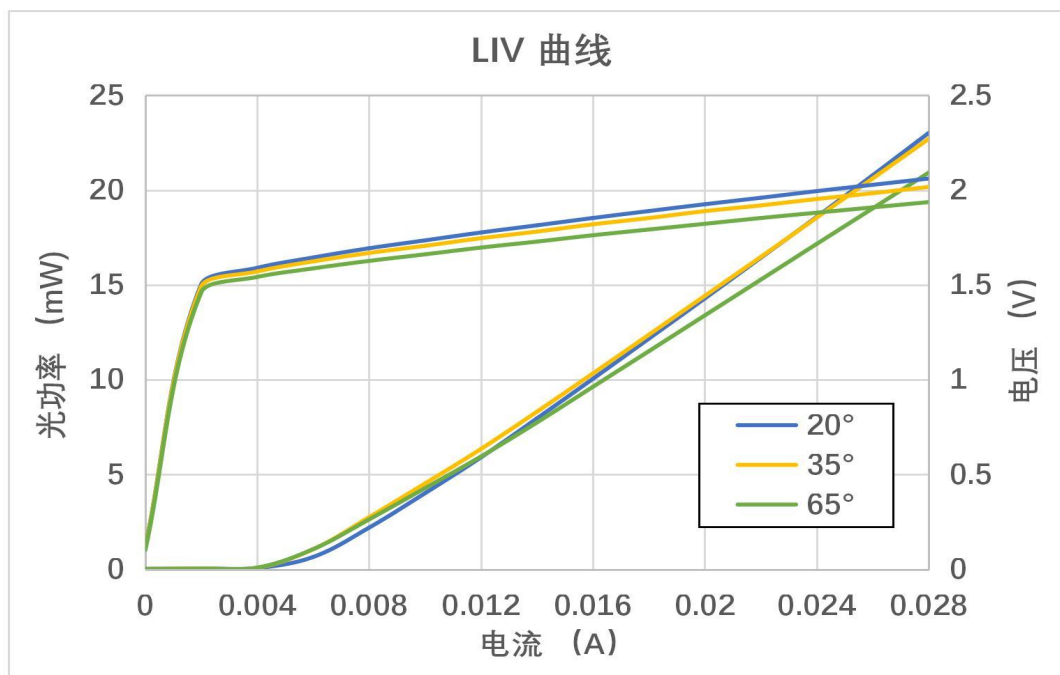
Features

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

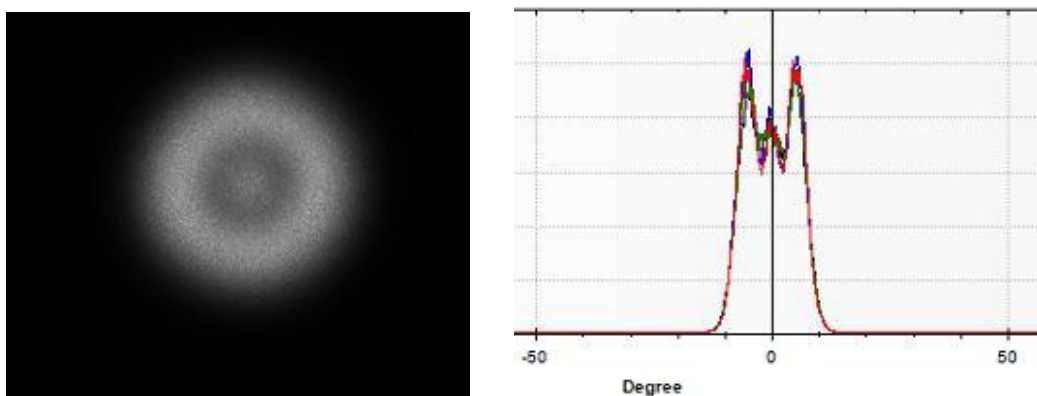
Applications

- 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	4.0	5.5	7.0	
Forward Voltage	V _F	V	1.8	2.0	2.2	IF = 28mA
Differential Resistance	R _s	Ohms	--	15	--	
Slop Efficiency	SE	W/A	0.95	1.05	--	
Output Power	P _{op}	mW	20	23	--	IF = 28mA
Power Conversion Efficiency	PCE	%	38	41	--	IF = 28mA
Wavelength	λ _{op}	nm	840	850	860	
Divergence Angle(1/e ²)		deg	18	21	23	IF = 28mA

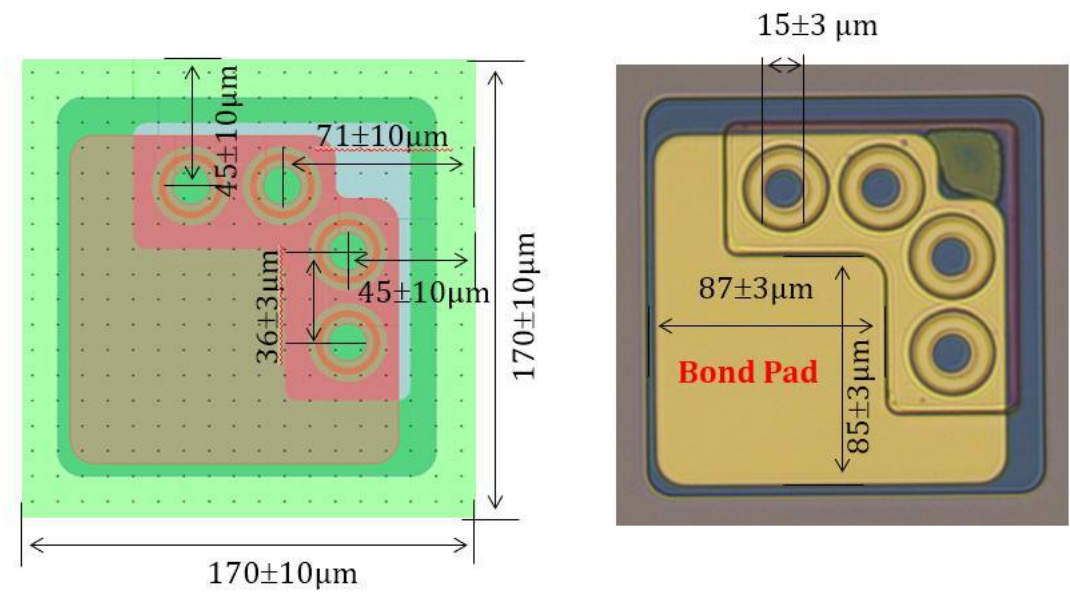
25°C, QCW Model (Pulse length 0.5ms, 10% Duty Cycle)

February 2024

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	$170\pm10\mu\text{m} \times 170\pm10\mu\text{m}$
芯片厚度 Die Thickness	$130\pm10\mu\text{m}$
光孔数目 Number of Emitters	4
焊盘尺寸 (正极) Bond Pad Size (Anode Pad)	$87\pm3\mu\text{m} \times 85\pm3\mu\text{m}$
背面电极尺寸 (负极) Back Electrode Size (Cathode Pad)	$170\pm10\mu\text{m} \times 170\pm10\mu\text{m}$

