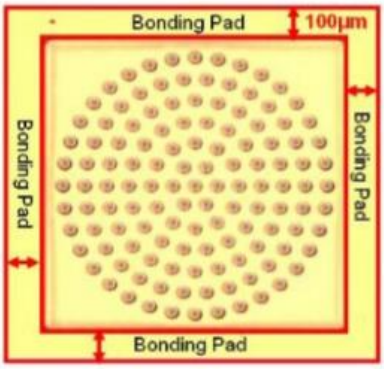
850nm 630mW VCSEL Chip

Part No. VCC-85A630H

Features

- 850nm multi-emitter VCSEL chip
- Typical 630mW output power at 1000mA
- -10 to 85ºC operating temperature
- Beam Divergence typ. 30 degree at FWHM
- Chip size: 1016μm x 1016μm



Applications

- Infrared illumination light source
- Night vision lighting
- Consumer electronics
- Gesture sensor light source

Specifications

Absolute Maximum Ratings				
Parameters	Symbol	Rating	Unit	Conditions
Storage Temperature	T_{stg}	-40 to 125	°C	
Operating Temperature	T_{op}	-10 to 85	°C	
Forward Current	I_f	1000	mA	
Junction Temperature	T_j	≦ 130	°C	

Note: The maximum CW laser current in the Absolute Maximum Ratings is valid for the operating temperature noted at the table above. Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device.

Electro-Optical Characteristics (T_a=25ºC unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		180		mA	
Slope Efficiency	η		0.7		W/A	I_f=600mA
Optical Output Power	P_o	300	400	450	mW	I_f=600mA
		630				I_f=1000mA
Center Wavelength	λ_C	840	850	860	nm	I_f=600mA
Variation in Output Power	ΔP_o		1		%/°C	T_a=25 to 85°C
Beam Divergence	Θ		30		°	I_f=600mA (FWHM)
Forward Voltage	V_f	1.8	2.4	2.6	V	I_f=600mA
ESD Threshold	V_{ESD}		4000		V	Human Body Model/3 pulse

Notes:

- All parameters except mentioned are measured at I_f=600mA, T_a=25ºC, CW.
- Forward Voltage (V_f) measurement allowance is ±0.1V.
- Center Wavelength (λ_C) measurement allowance is ±1.5nm.
- Others measurement allowance is ±10%.

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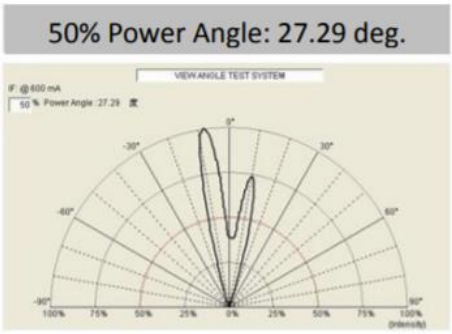
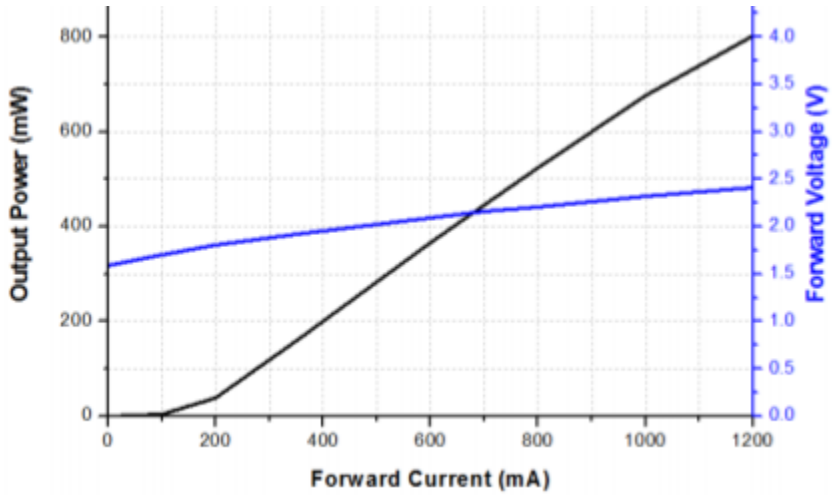
Typical Characteristics

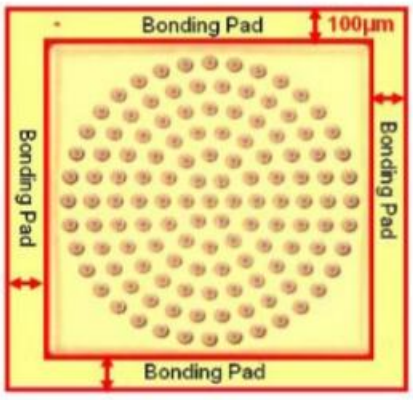
Beam Divergence

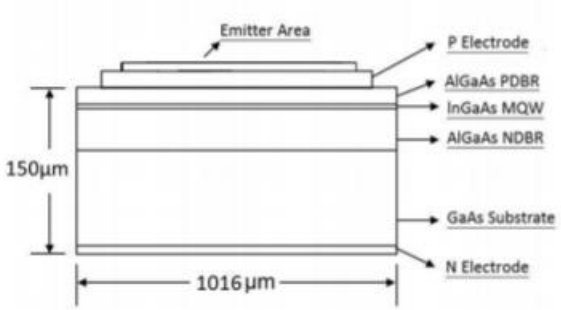


LIV Graph at 25ºC



Outline Dimensions (unit: μm)





Specification	Min.	Typ.	Max.
Chip width	1001	1016	1031
Chip length	1001	1016	1031
Chip thickness	135	150	165

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Additional Notes

- The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.
- Specifications are subject to change without notice.

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