

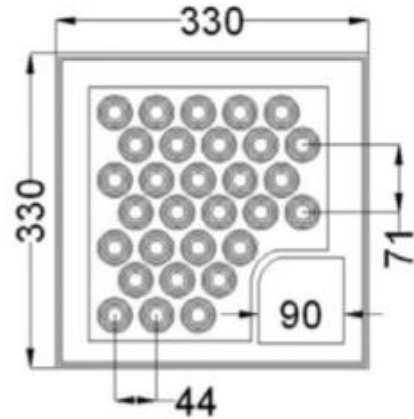


940nm 170mW VCSEL Chip

Part No. VCC-94A170H

Features

- 940nm multi-emitter VCSEL chip
- Typical 170mW output power at 200mA
- High Power Conversion Efficiency ~43% Typical
- Number of emitters: 30
- Chip size: 330 x 330 ±15 um
- -20 to 85°C operating temperature
- Electrode Side: Gold alloy on both anode P (emission side) and cathode N (backside)



Applications

- Sensor light source
- Consumer electronics
- Security camera light source

Specifications

Absolute Maximum Ratings					
Parameters	Symbol	Rating	Unit	Conditions	
Storage Temperature	T _{stg}	-40 to 125	°C		
Operating Temperature	T _{op}	-20 to 85	°C		
Continuous Forward Current	I _f	200	mA		
Maximum package SMT solder reflow temperature	-	260	°C	10 seconds	

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 =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I _{th}		25		mA	CW
Slope Efficiency	η	0.9	1.0		W/A	I _f =200mA
Optical Output Power	P _o		170		mW	I _f =200mA
Center Wavelength	λ _c	930	940	950	nm	I _f =200mA
Beam Divergence	Θ		25		°	Full Width 1/e ²
Operating Voltage	V _f		1.8	2.1	V	I _f =200mA
Power Conversion Efficiency	PCE		43		%	I _f =200mA

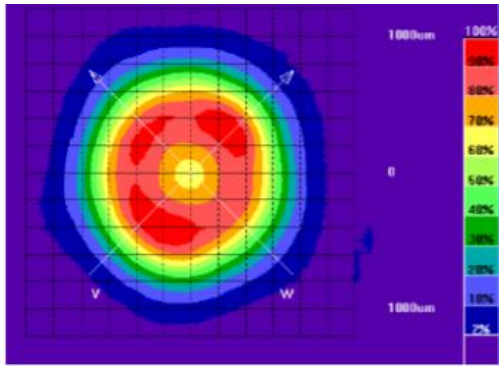
Notes:

- Forward Voltage (V_f) measurement allowance is ±0.1V.
- Center Wavelength (λ_c) measurement allowance is ±1.5nm.
- Others measurement allowance is ±5%.
- All parameters except mentioned are measured at I_f=200mA, T_a=25°C, CW.



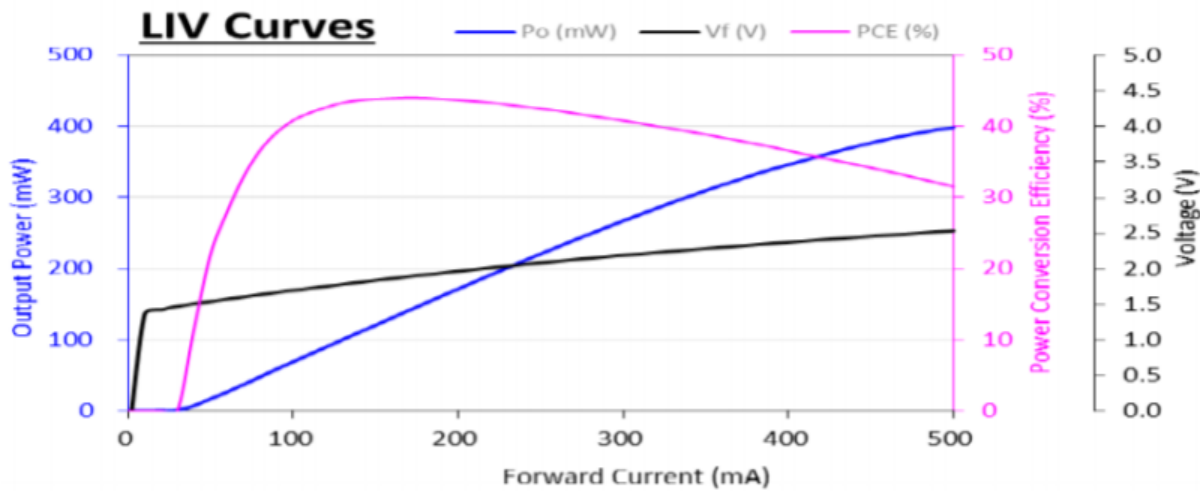
Typical Characteristics

Beam Divergence

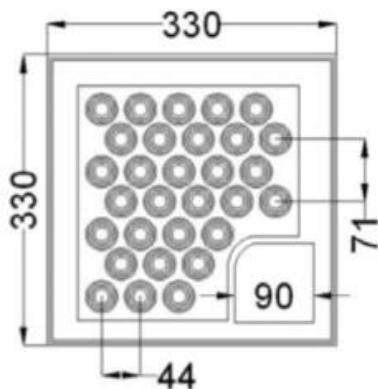


Full Width 1/ e² : 25°

LIV Graph at 25°C



Outline Dimensions (unit: μm)



Specification	Min.	Typ.	Max.
Chip width	315	330	345
Chip length	315	330	345
Chip thickness	105	120	135
Bond pad width	-	90	-

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.