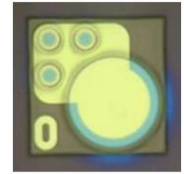




# 850nm 10mW VCSEL Chip

## VCC-85A10H



### Features

- 850nm multi-emitter VCSEL chip
- Output power: 10mW
- Multimode beam profile
- Multiple mesa type
- High reliability

### Applications

- Consumer electronics
- Safety sensor
- Illumination light source
- Proximity sensor

### Specifications

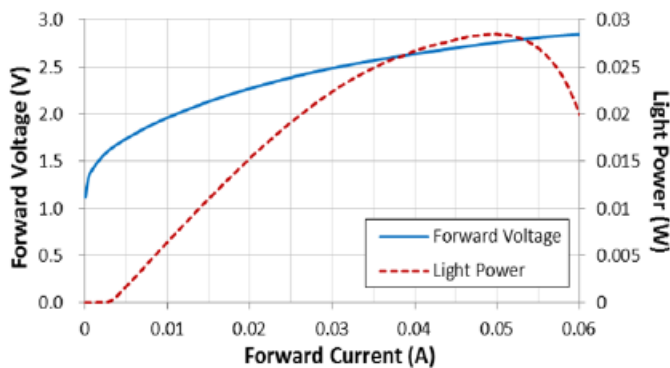
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	-10	60	°C	
Continuous Forward Current		20	mA	

Electro-Optical Characteristics (T <sub>a</sub> =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I <sub>th</sub>		3.0		mA	CW
Slope Efficiency	η		1.0		W/A	I <sub>f</sub> =13mA
Optical Output Power	P <sub>o</sub>		10		mW	I <sub>f</sub> =13mA
Peak Wavelength	λ <sub>p</sub>	840	850	860	nm	I <sub>f</sub> =13mA
Beam Divergence	Θ		20		°	P <sub>o</sub> =10mW (FWHM)
Operating Voltage	V <sub>f</sub>		2.2	2.5	V	I <sub>f</sub> =13mA
Breakdown Voltage	V <sub>b</sub>	-10			V	
Series Resistance	R <sub>d</sub>		30		Ohm	I <sub>f</sub> =13mA

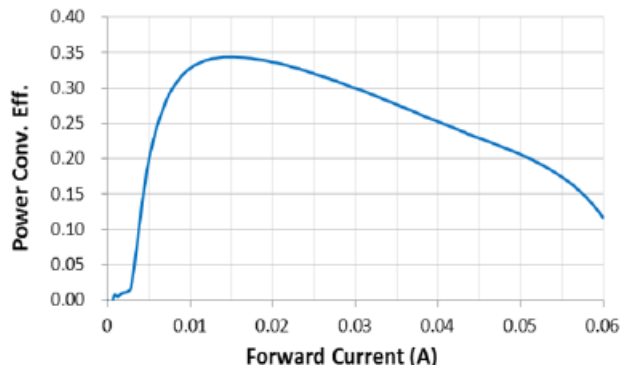
Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>		2.0		mA	T <sub>a</sub> =-10 to 70°C
λ Temperature Coefficient	Δλ/ΔT		0.06		nm/°C	T <sub>a</sub> =-10 to 70°C, I <sub>f</sub> =13mA

Typical Characteristics

LIV Curve



Power Conversion Efficiency



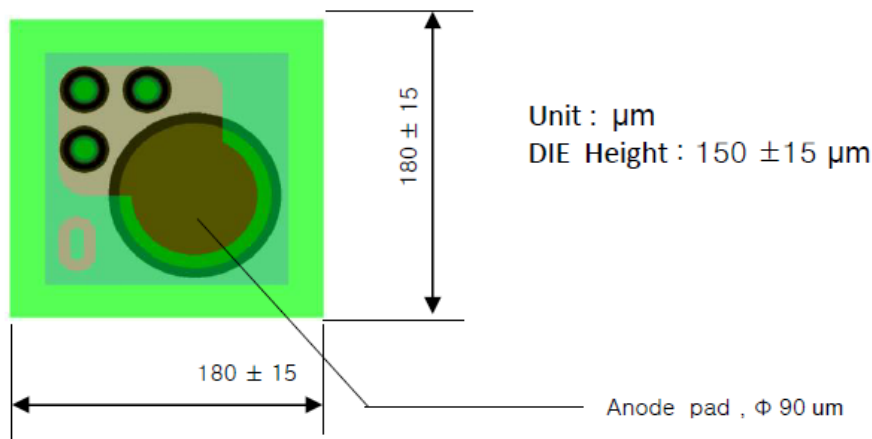
Test PKG sample: TO-Can type, TO-46

Test condition: CW Mode:  $I_f$  step interval 2mA, Delay time 2msec

Test PKG sample: TO-Can type, TO-46

Test condition: CW Mode:  $I_f$  step interval 2mA, Delay time 2msec

Outline Dimensions



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.