



# 10Gbps 850nm 2.5mW Single Mode 1x12 VCSEL Chip Array

Part No. VCCA12-85C10G



## Features

- 850nm VCSEL 12ch chip array
- Single longitudinal mode
- Bit data rate more than 10Gbps
- Oxide isolation technology
- Low threshold current
- High reliability

## Applications

- 10Gbps data transmission
- Optical USB
- Active Optical Cable (AOC)
- HDMI
- Sensing applications

## Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	105	°C	
Operating Temperature	-25	85	°C	
Reflow Soldering Temperature		320	°C	10 seconds
Reverse Voltage		5	V	
Maximum Continuous Current		10	mA	
ESD Exposure (Human Body) Model		2K	V	

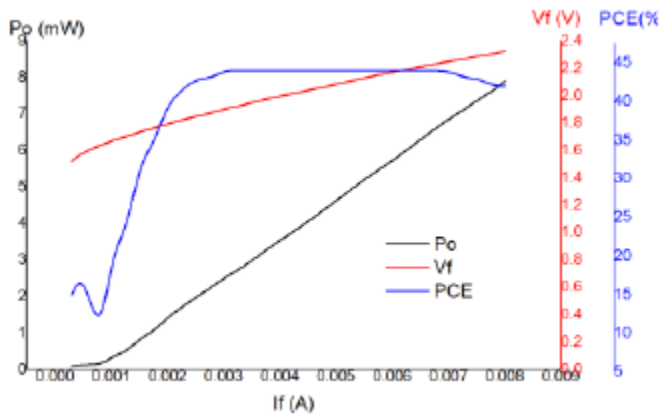
Electro-Optical Characteristics (T <sub>op</sub> =25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical Output Power	P <sub>o</sub>	-	2.5	-	mW	I <sub>F</sub> =3mA
Threshold Current	I <sub>th</sub>	-	0.5	-	mA	
Forward Current	I <sub>F</sub>	-	3	-	A	
Laser Forward Voltage	V <sub>F</sub>	-	1.89	-	V	I <sub>F</sub> =3mA
Slope Efficiency	η	-	0.98	-	mW/mA	P <sub>o</sub> =2.5mW
Series Resistance	R <sub>S</sub>	-	84.9		Ohm	I <sub>F</sub> =3mA
Peak Wavelength	λ <sub>P</sub>	840	850	860	nm	I <sub>F</sub> =3mA
Beam Divergence	FWHM <sub>B</sub>	-	25	-	Deg	
Wavelength Temperature Drift	Δλ <sub>P</sub> / ΔT	-	-	0.07	nm/°C	I <sub>F</sub> =3mA
Fall Time (20-80%)	T <sub>f</sub>	-	133	136	ps	
Rise Time (20-80%)	T <sub>r</sub>	-	126	127	ps	
Die Size		-	250x228	-	um	
Soldering Temperature	T <sub>sol</sub>			260	°C	5 seconds

Note: Electro-Optical Characteristic with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

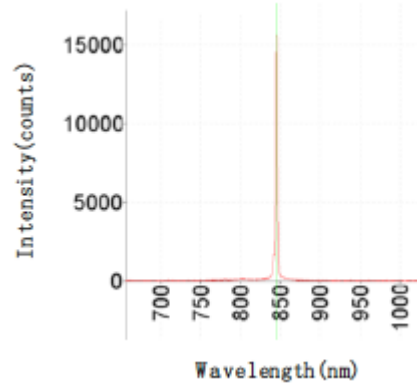


### Typical Characteristics

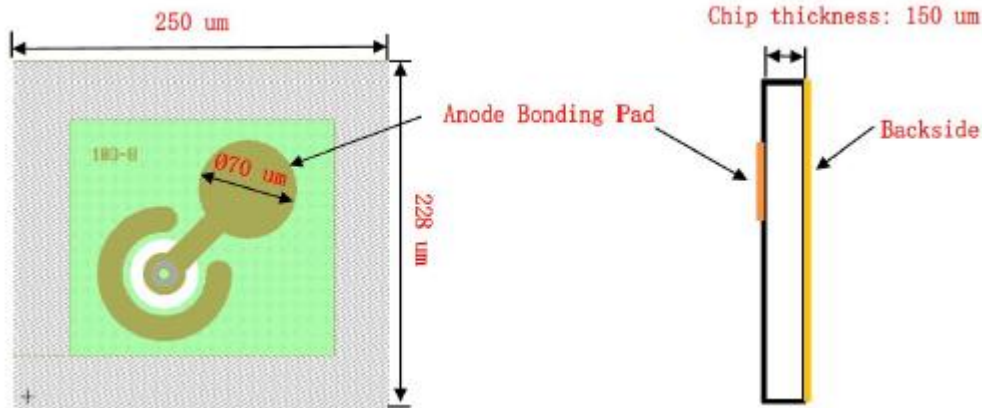
LIV Curve



Intensity vs. Wavelength



### Outline Dimensions



Pitch = 250um +/- 10um



### 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.