



VCCx-85C10G

10Gbps 850nm VCSEL Chip and Chip Array

Description

The Lasermate VCC-85C10G/VCCAx-85C10G is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) chip/array available up to 16 channels. The VCSEL is designed for use in 10Gbps data rate operation.

Features

- 850nm VCSEL chip and 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

Product Overview

Part Number	Form Factor
VCC-85C10G	Chip
VCCA4-85C10G	1x4 Array
VCCA8-85C10G	1x8 Array
VCCA12-85C10G	1x12 Array
VCCA16-85C10G	1x16 Array



Specifications

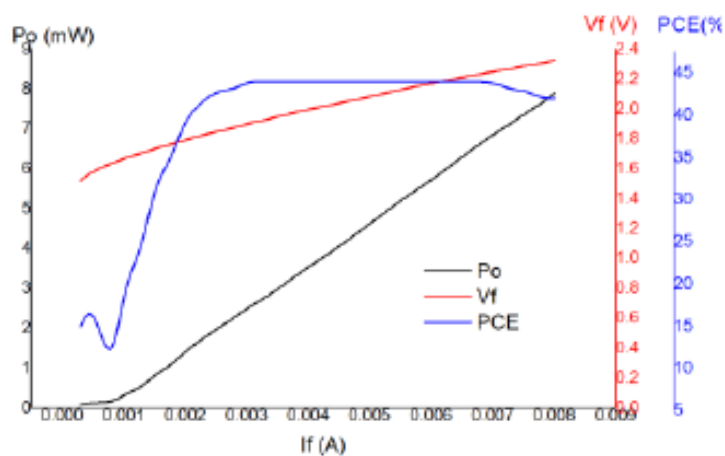
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	105	°C	
Operating Temperature	-25	85	°C	
Reflow Soldering Temperature		320	°C	10 seconds
Reverse Voltage		5	V	
Maximum Continuous Current		10	mA	
ESD Exposure (Human Body) Model		2K	V	

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

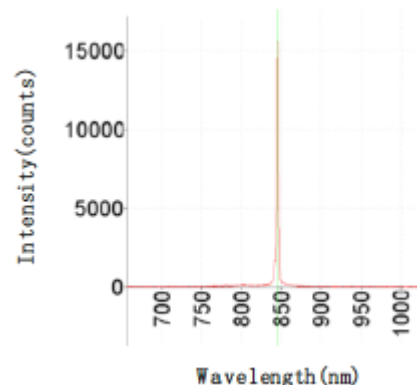
Note: Electro-Optical Characteristic with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

Typical Characteristics

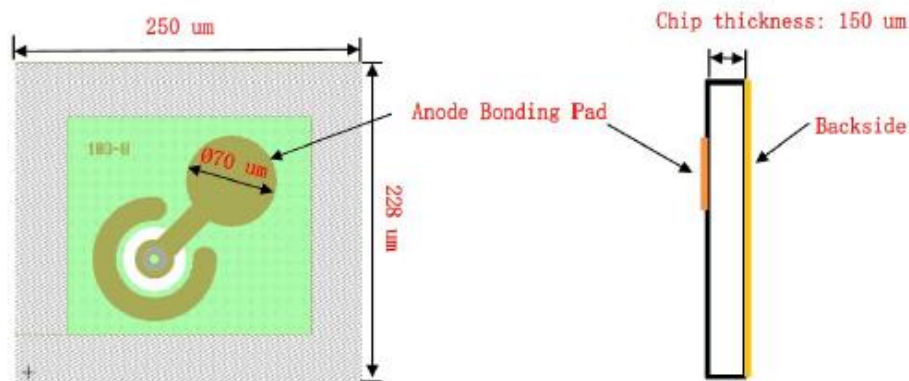
LIV Curve



Intensity vs. Wavelength



Outline Dimensions



Pitch = 250 μm +/- 10 μm

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.