10Gbps 850nm 2.5mW Single Mode VCSEL Chip

Part No. VCC-85C10G

Features

- 850nm VCSEL chip
- 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	

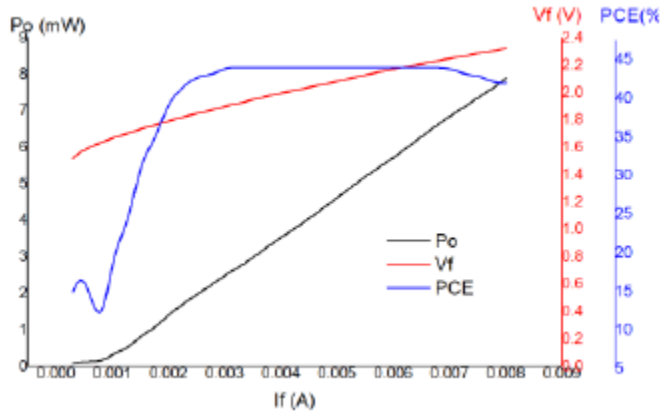
Electro-Optical Characteristics (T_{op}=25°C)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical Output Power	P_o	-	2.5	-	mW	I_F=3mA
Threshold Current	I_{th}	-	0.5	-	mA	
Forward Current	I_F	-	3	-	A	
Laser Forward Voltage	V_F	-	1.89	-	V	I_F=3mA
Slope Efficiency	η	-	0.98	-	mW/mA	P_o=2.5mW
Series 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	$\Delta\lambda_P/\Delta T$	-	-	0.07	nm/°C	I_F=3mA
Fall Time (20-80%)	Tf	-	133	136	ps	
Rise Time (20-80%)	Tr	-	126	127	ps	
Die Size		-	250x228	-	um	
Soldering Temperature	Tsol			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.

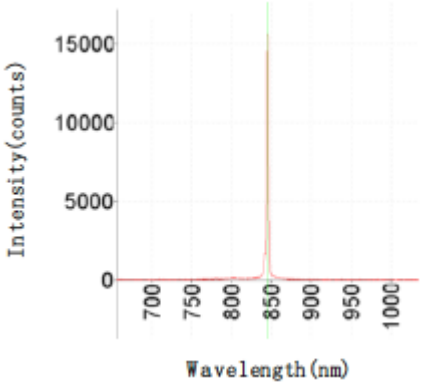
Lasermate Group, Inc.
19608 Camino De Rosa, Walnut, CA 91789, USA
Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: http://www.lasermate.com

Typical Characteristics

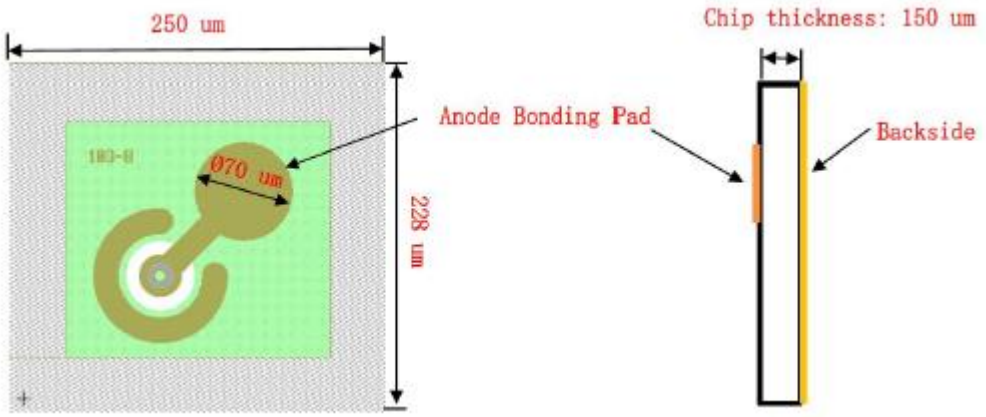
LIV Curve



Intensity vs. Wavelength



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.

Lasermate Group, Inc.
19608 Camino De Rosa, Walnut, CA 91789, USA
Tel: (909)718-0999 | Fax: (909)718-0998 | E-mail: info@lasermate.com | URL: http://www.lasermate.com