



High Performance 10Gbps 850nm Oxide VCSEL Chip

Part No. VCC-85A10G

Features

- 850nm oxide VCSEL chip
- High data rate capable of running 10Gbps
- Low divergence angle to ensure high optical coupling efficiency
- Wide operation temperature range -40 to 85°C



Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	125	°C	
Operating Temperature	-40	85	°C	
Continuous Forward Current		10	mA	
Continuous Reverse Voltage		5	V	10uA

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		0.8	1.2	mA	
Slope Efficiency	η	0.25	0.45	0.65	W/A	$I_f=6mA$
Optical Output Power	P_o		2.3		mW	$I_f=6mA$
Peak Wavelength	λ_P	840		860	nm	$I_f=6mA$
Spectral Bandwidth (RMS)	$\Delta\lambda$			0.65	nm	$I_f=6mA$
Beam Divergence	Θ	15		35	°	$I_f=6mA, (1/e^2)$
Forward Voltage	V_f		2.1	2.4	V	$I_f=6mA$
Series Resistance	R_s		85	115	Ohm	$I_f=6mA$
Rise Times (20%~80%)	t_r		40		ps	$I_f=6mA$
Fall Times (20%~80%)	t_f		40		ps	$I_f=6mA$
3dB Bandwidth	BW	8			GHz	$I_f=6mA$

Typical Characteristics

Fig. 1 Typical Optical Characteristics

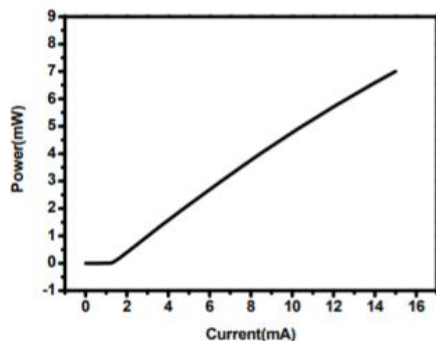
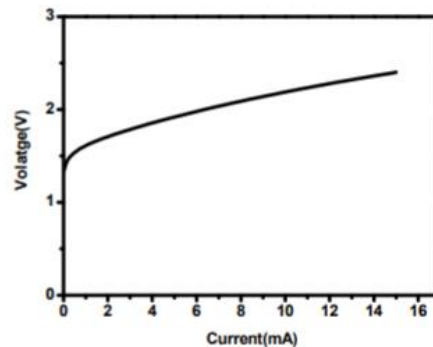


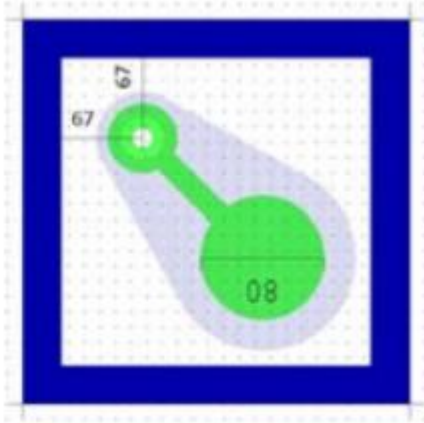
Fig. 2 Typical Electrical Characteristics



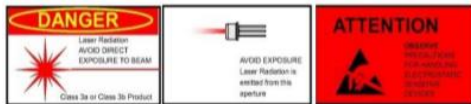


Outline Dimensions

- Chip length: 230 μm
- Chip width: 230 μm
- Chip thickness: 200 \pm 20 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.

The VCSEL is a class 3B laser in the safety standard IEC 60825:2014 and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification/identification label cannot be placed on the component itself.

Note: Specifications are subject to change without notice.