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VCC-85B10G
10Gbps 850nm Non-Hermetic Oxide VCSEL Chip

Features

- 850nm oxide VCSEL chip
- High data rate capable of running 10Gbps
- P and N bonding pads on different surfaces
- Low divergence angle to ensure high optical coupling efficiency
- Wide operation temperature range -40 to 85°C
- Non-hermetic design, suitable for not sealed package type

Applications

- High speed Data communications
- Gigabit ethernet
- Fiber channel

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	125	°C	
Operating Temperature	-40	85	°C	
Continuous Forward Current		15	mA	
Continuous Reverse Voltage		14	V	10uA

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		0.85		mA	
Slope Efficiency	η	0.20	0.40	0.65	mW/mA	I_f=6mA
Optical Output Power	P_o		2.2		mW	I_f=6mA
Peak Wavelength	λ_P	840		860	nm	I_f=6mA
Spectral Bandwidth (RMS)	$\Delta\lambda$	0.20		0.45	nm	I_f=6mA
Beam Divergence	θ		24	30	°	I_f=6mA, ($1/e^2$)
Forward Voltage	V_f	2.20	2.35	2.50	V	I_f=6mA
Series Resistance	R_S	70	90	100	Ohm	I_f=6mA
Reverse Current	I_r	-1		0	nA	V_R=-14V
3dB Bandwidth	BW	8			GHz	I_f=6mA

Note: All parameters except mentioned are measured at I_f=6mA, 25°C, CW operation.

Typical Characteristics

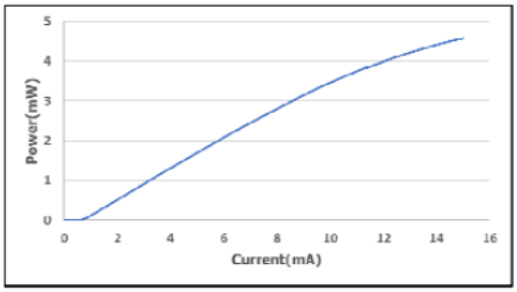


Fig. 1 Typical Optical Characteristics

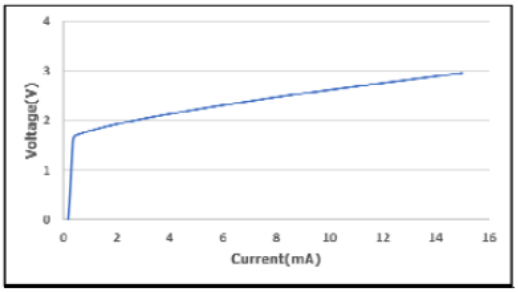
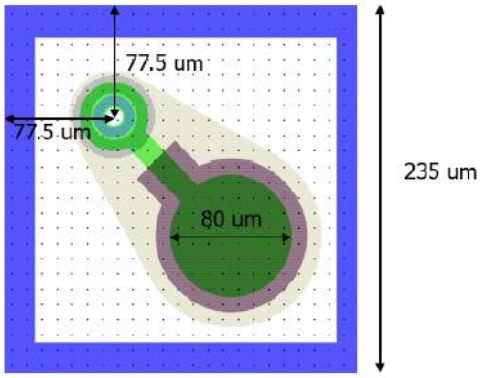


Fig. 2 Typical Electrical Characteristics

Outline Dimensions

- Chip length: 235µm ± 20µm
- Chip width: 235µm ± 20µm
- Chip thickness: 200 ± 20µm



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.