VCC-85A16G

16Gb/s 850nm Multimode Dual Top Contact VCSEL Die

Data Sheet

Description

The Lasermate VCC-85A16G is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) die. The VCSEL is designed for use in 16Gbps data rate operation.

Features

- 850nm multimode emission
- High data rate up to 16Gbps
- P and N bonding pads on top surface
- Low threshold and operation current

Applications

- High speed Data communications
- Gigabit ethernet
- Fiber channel

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	0	70	°C	
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		0.5	0.65	mA	
Slope Efficiency	η	0.35	0.45		mW/mA	I_F=6mA
Output Power	P_o		2.2	2.5	mW	I_F=6mA
Wavelength	λ_P	840		860	nm	I_F=6mA
Forward Voltage	V_F		2.0	2.1	V	I_F=6mA
Series Resistance	R_S		65	75	Ω	I_F=6mA
Spectral Width (RMS)	$\Delta\lambda$			0.6	nm	I_F=6mA
Beam Divergence	Θ		28	33	degree	I_F=6mA ($1/e^2$)
Rise Times (20% to 80%)	Tr		18		ps	I_F=6mA
Fall Times (20% to 80%)	Tf		21		ps	I_F=6mA
3dB Bandwidth	BW	12	13		GHz	I_F=6mA
Relative Intensity Noise	RIN		-130	-128	dB/Hz	I_F=7mA, ER=4dB, 19GHz BW, T=80°C

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

Typical Characteristics

Fig. 1 Typical Optical Characteristics

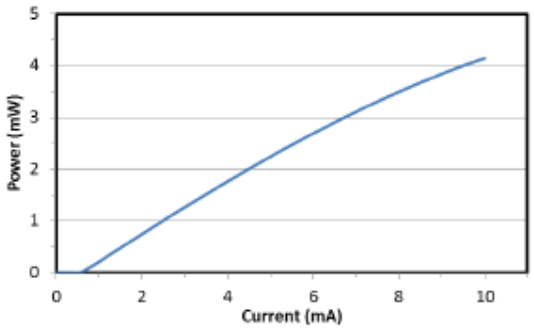
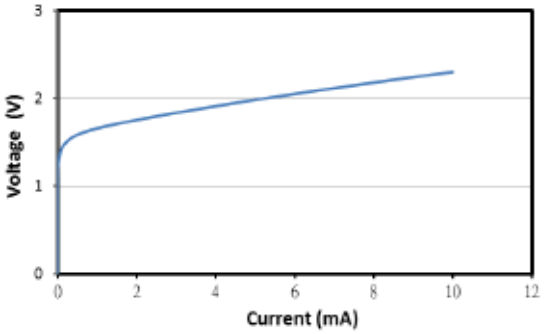
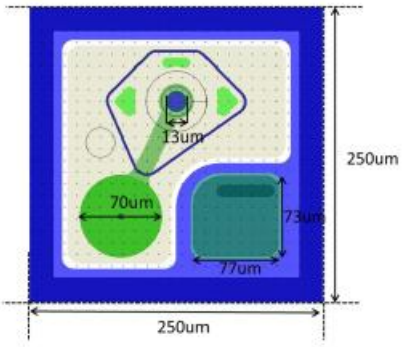


Fig. 2 Typical Electrical Characteristics



Outline Dimensions



- Chip length: 250um
- Chip width: 250um
- Chip thickness: 150±12.5um

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.