



VCCx-85A28G

28Gb/s 850nm Multimode Dual Top Contact VCSEL Chip

Description

The Lasermate VCCx-85A28G is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) chip and chip array available with up to 12 channels. The VCSEL is designed for use in 28Gbps data rate operation.

Features

- 850nm multimode emission
- 1xN array bar with 250um pitch
- High data rate up to 28Gbps
- P and N bonding pads on top surface
- Low threshold and operation current

Applications

- High speed Data communications
- Gigabit ethernet
- Fiber channel

Product Overview

Part Number	Package
VCC-85A28G	Chip
VCCA2-85A28G	1x2 Array
VCCA4-85A28G	1x4 Array
VCCA8-85A28G	1x8 Array
VCCA12-85A28G	1x12 Array



Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	-10	85	°C	
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	10uA

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}	0.5	0.6	0.9	mA	
Slope Efficiency	η	0.3	0.4	0.5	mW/mA	$I_F=6mA$
Output Power	P_o	1.65	2.2	3.0	mW	$I_F=6mA$
Wavelength	λ_P	840		860	nm	$I_F=6mA$
Forward Voltage	V_F		1.9	2.3	V	$I_F=6mA$
Series Resistance	R_s		50	85	Ω	$I_F=6mA$
Spectral Width (RMS)	$\Delta\lambda$		0.5	0.6	nm	$I_F=6mA$
Beam Divergence	θ		28	33	degree	$I_F=6mA (1/e^2)$
Rise Times (20% to 80%)	T_r		16		ps	$I_F=6mA$
Fall Times (20% to 80%)	T_f		20		ps	$I_F=6mA$
3dB Bandwidth	BW	15	16		GHz	$I_F=6mA$
Relative Intensity Noise	RIN		-140	-135	dB/Hz	$I_F=7mA, T=25^\circ C$

Note: All parameters except mentioned are measured at $I_F=6mA, 25^\circ C, CW$ operation.

Typical Characteristics

Fig. 1 Typical Optical Characteristics

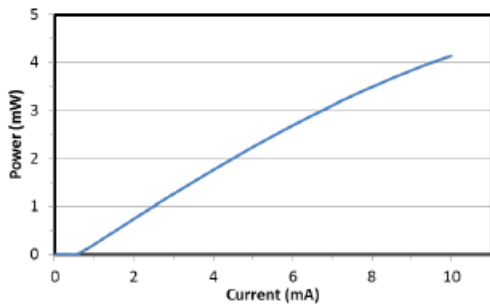
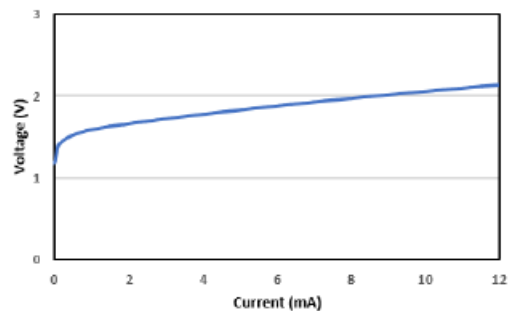
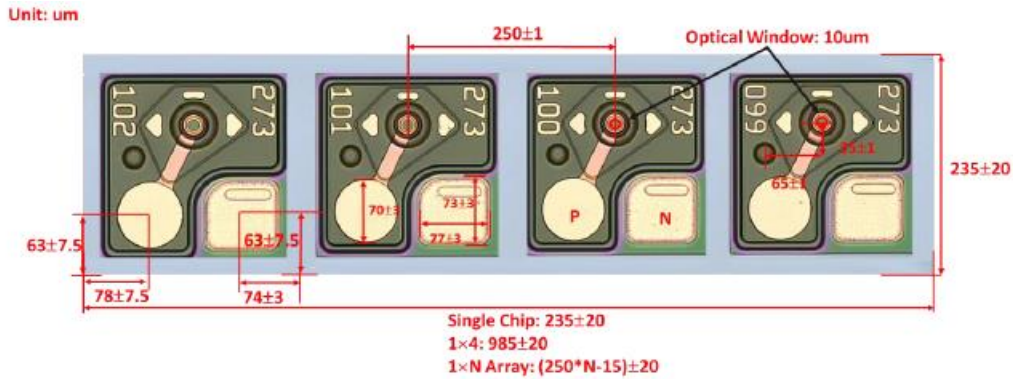


Fig. 2 Typical Electrical Characteristics



Outline Dimensions



- Chip length: 235±20 μm
- Chip width: 235±20 μm
- Pitch: 250 μm
- Chip thickness: 150±12.5 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.