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VCC-98A2G
1.25/2.5Gbps 980nm Multimode VCSEL Chip

Description

The Lasermate VCC-98A2G is a 980nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) chip designed for use in 1.25/2.5Gbps data rate operation.

Features

- 980nm VCSEL chip
- High data rate 1.25/2.5Gbps
- Low current operation available
- High reliability

Applications

- High speed Data communications
- Gigabit ethernet
- Fiber channel

Specifications

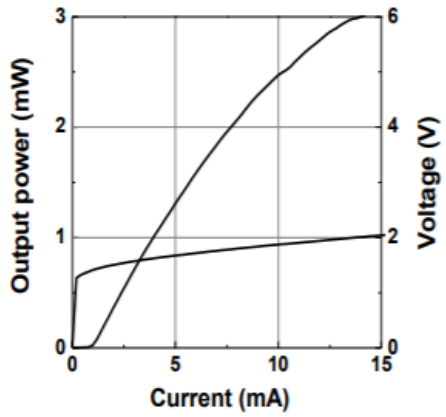
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	0	85	°C	
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	10uA

Electro-Optical Characteristics (T_a=25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		1.5		mA	CW
Slope Efficiency	η	0.2	0.3	0.5	W/A	I_f=6mA
Optical Output Power	P_o		1.5		mW	I_f=6mA
Peak Wavelength	λ_P	970	980	990	nm	I_f=6mA
Spectral Bandwidth (RMS)	$\Delta\lambda$			0.85	nm	I_f=6mA
Beam Divergence	Θ	14		30	°	P_0=1.5mW, (Full Width, $1/e^2$)
Forward Voltage	V_f		1.6	2.0	V	I_f=6mA
Breakdown Voltage	V_b		-10		V	
Dynamic Resistance	R_d	25	35	55	Ohm	I_f=6mA
Laser Turn-On Time	t_{ON}			50	ns	Mod. Freq. = 200kHz

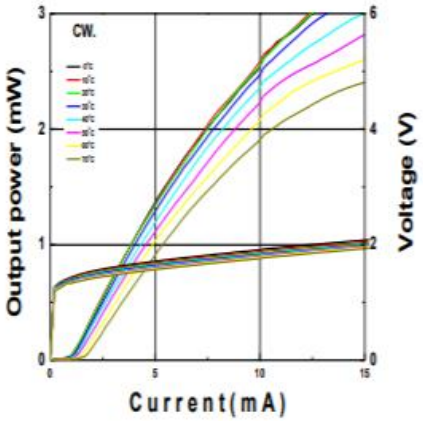
Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	T_a=0 to 85°C
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.5		%/°C	T_a=0 to 85°C, I_f=6mA
λ Temperature Coefficient	$\Delta\lambda/\Delta T$		0.06		nm/°C	T_a=0 to 85°C, I_f=6mA

Typical Characteristics

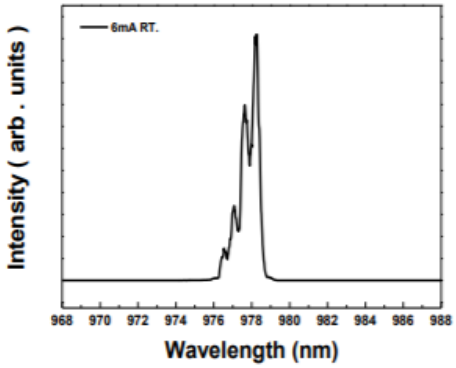
LIV Curve



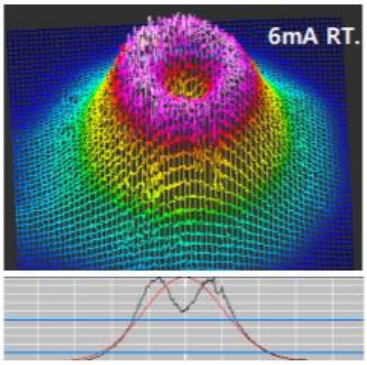
LIV vs. Temperature



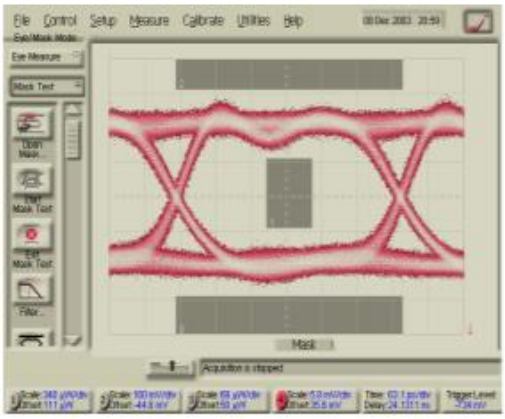
EL Spectrum



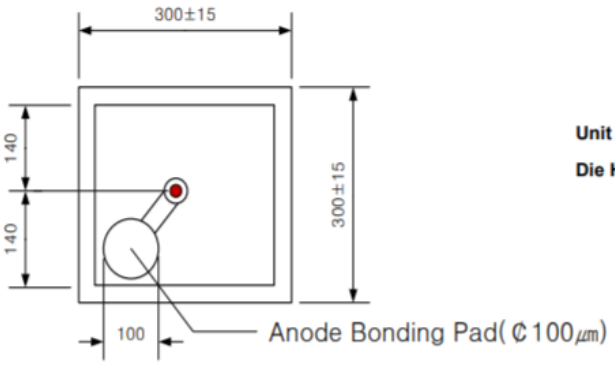
FFP



Eye Diagram



Outline Dimensions



Unit : ㎛

Die Height : 200±15㎛

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.