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VCC-85ASM-PL
850nm 2mW Single Mode Polarization Locked VCSEL Chip

Description

The Lasermate VCC-85ASM-PL is an 850nm wavelength, single longitudinal mode and single transverse mode, polarization locked, Vertical Cavity Surface Emitting Laser (VCSEL) chip.

Features

- 850nm single emitter VCSEL chip
- Single transverse mode and longitudinal mode
- Size: 200um x 130um
- Gaussian beam profile
- Polarization locked emission (No polarization switching below operating current 8mA)

Specifications

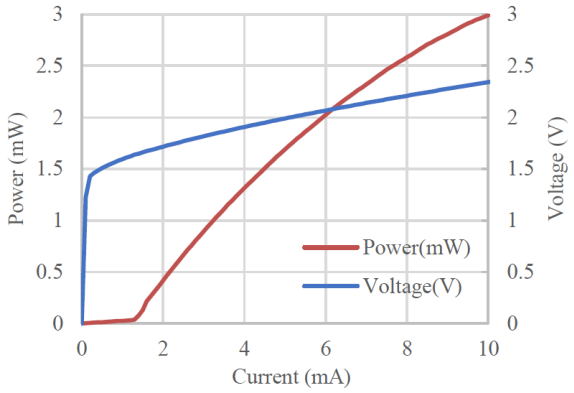
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	125	°C	
Operating Temperature	-20	65	°C	
Continuous Forward Current		8	mA	
Reverse Voltage		5	V	

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		0.4		mW/mA	
Optical Output Power	P_o	1.5	2		mW	I_f=6mA
Peak Wavelength	λ_P	840	850	860	nm	I_f=6mA
Beam Divergence	Θ	12	15	18	°	I_f=6mA (1/e^2)
Forward Voltage	V_F	1.75	2.0	2.25	V	I_f=6mA
Series Resistance	R_s		55		Ohm	
Side Mode Suppression Ratio	SMSR	20			dB	I_f=6mA

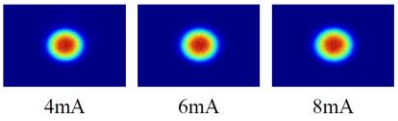
Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
P_o Temperature Coefficient			-0.65		%/°C	T_a=25 to 65°C, I_f=6mA
V_F Temperature Coefficient			-2.5		mV/°C	T_a=25 to 65°C, I_f=6mA
λ Temperature Coefficient	$\Delta\lambda/\Delta T$		0.065		nm/°C	T_a=25 to 65°C, I_f=6mA

Typical Characteristics

LIV Curve



Gaussian Beam Profile



Outline Dimensions (unit: µm)

- Chip length: 200um +/- 15um
- Chip width: 130um +/- 15um
- Chip thickness: 150um +/- 15um
- Anode bond pad: Dia. 90um +/- 2um

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.