



# 850nm 2mW Single Mode Polarization Locked VCSEL Chip

## VCC-85ASM-PL

Data Sheet

### 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)

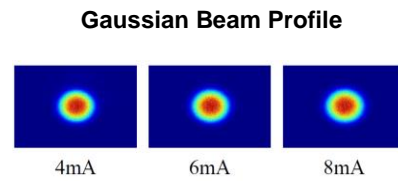
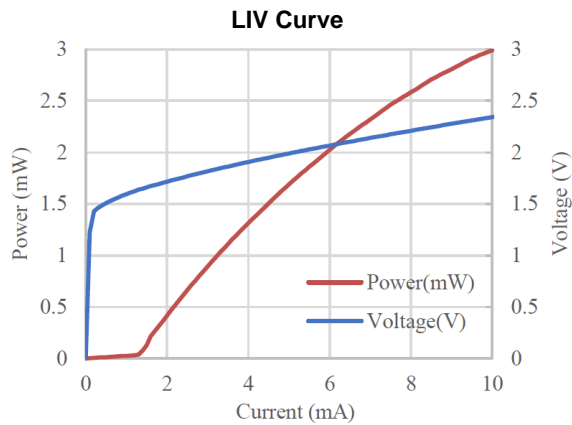
### Specifications

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	

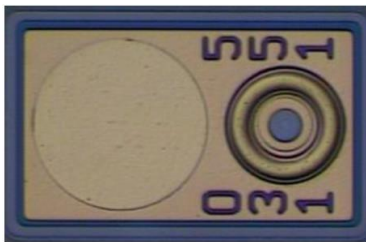
Electro-Optical Characteristics (T <sub>a</sub> =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I <sub>th</sub>		1.5		mA	CW
Slope Efficiency	η		0.4		mW/mA	
Optical Output Power	P <sub>o</sub>	1.5	2		mW	I <sub>f</sub> =6mA
Peak Wavelength	λ <sub>P</sub>	840	850	860	nm	I <sub>f</sub> =6mA
Beam Divergence	Θ	12	15	18	°	I <sub>f</sub> =6mA (1/e <sup>2</sup> )
Forward Voltage	V <sub>F</sub>	1.75	2.0	2.25	V	I <sub>f</sub> =6mA
Series Resistance	R <sub>s</sub>		55		Ohm	
Side Mode Suppression Ratio	SMSR	20			dB	I <sub>f</sub> =6mA

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
P <sub>o</sub> Temperature Coefficient			-0.65		%/°C	T <sub>a</sub> =25 to 65°C, I <sub>f</sub> =6mA
V <sub>F</sub> Temperature Coefficient			-2.5		mV/°C	T <sub>a</sub> =25 to 65°C, I <sub>f</sub> =6mA
λ Temperature Coefficient	Δλ/ΔT		0.065		nm/°C	T <sub>a</sub> =25 to 65°C, I <sub>f</sub> =6mA

## Typical Characteristics



## Outline Dimensions



- 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.