



VCC-94A3SM

940nm 2.5mW Single Mode Oxide VCSEL Emitter

Data Sheet

Features

- 940nm single emitter VCSEL chip
- Single transverse mode and longitudinal mode
- Size: 170um x 170um

Specifications

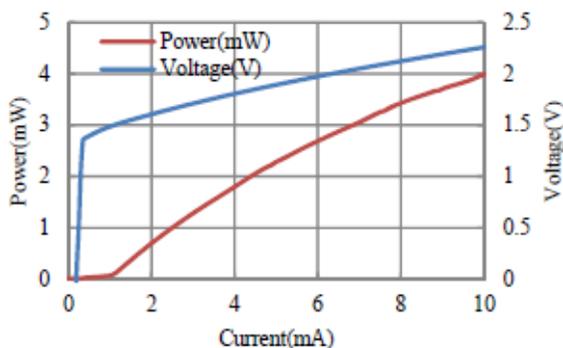
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	125	°C	
Operating Temperature	-20	65	°C	
Continuous Forward Current		8	mA	
Reverse Voltage		5	V	

Electro-Optical Characteristics (T _a =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I _{th}		1.2	2	mA	CW
Slope Efficiency	η		0.4		mW/mA	
Optical Output Power	P _o	1.8	2.5	3.2	mW	I _f =6mA
Peak Wavelength	λ _P	930	940	955	nm	I _f =6mA
Beam Divergence	Θ		15		°	I _f =6mA (1/e ²)
Forward Voltage	V _F		2	2.25	V	I _f =6mA
Series Resistance	R _s		80		Ohm	

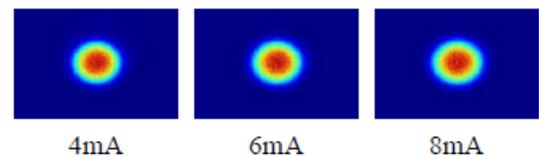
Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
P _o Temperature Coefficient			-0.65		%/°C	T _a =25 to 65°C, I _f =6mA
V _F Temperature Coefficient			-2.5		mV/°C	T _a =25 to 65°C, I _f =6mA
λ Temperature Coefficient	Δλ/ΔT		0.065		nm/°C	T _a =25 to 65°C, I _f =6mA

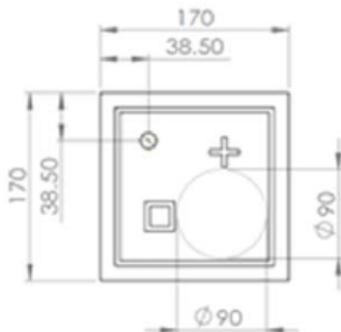
Typical Characteristics

Typical electro/optical characteristics curves measured at 25°C, CW operation



Gaussian Beam Profile



Outline Dimensions (unit: μm)

- Chip length: 170 μm \pm 10 μm
- Chip width: 170 μm \pm 10 μm
- Chip thickness: 150 μm \pm 15 μm
- Anode bond pad: Dia. 90 μm \pm 2 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.