



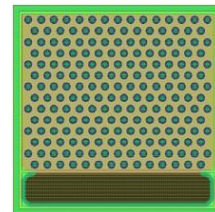
VCC-94P1WA

940nm 1000mW Pulsed VCSEL Chip

Data Sheet

Features

- 940nm multi-emitter VCSEL chip
- Peak output power: 1000mW (pulsed)
- Multimode beam profile
- High reliability



Applications

- Consumer electronics
- Safety sensor
- Illumination light source
- Gesture sensor light source

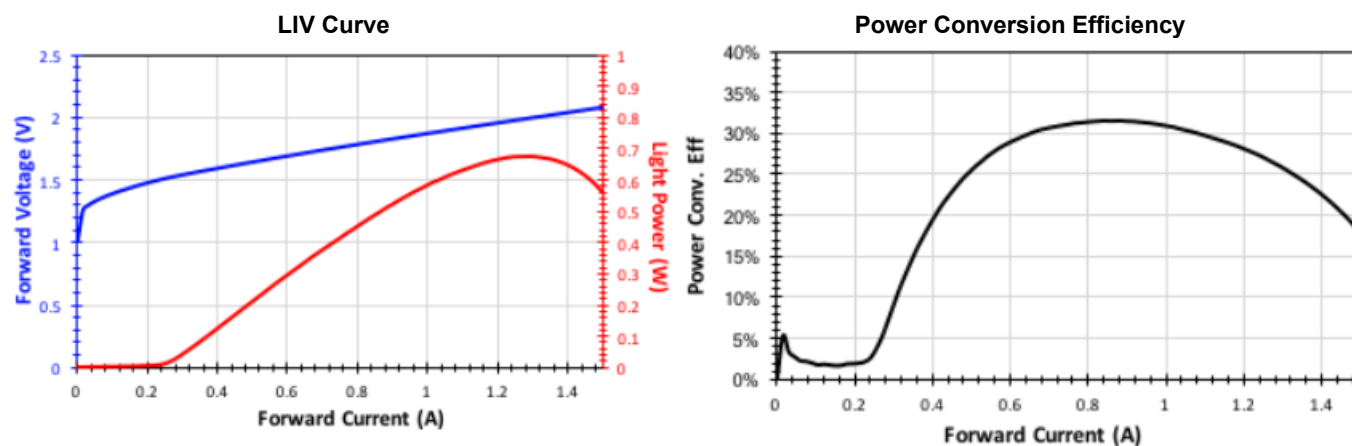
Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	-10	70	°C	
Continuous Forward Current		500	mA	

Electro-Optical Characteristics (T _a =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I _{th}		230		mA	CW
Slope Efficiency	η		1.0		W/A	I _r =30mA
Peak Optical Output Power	P _o		1		W	Peak pulse current 1.25 A (12.5% duty ratio)
Peak Wavelength	λ _P	930	940	950	nm	Peak pulse current 1.25 A (12.5% duty ratio)
Spectral Bandwidth (RMS)	Δλ			0.9	nm	I _r =500mA
Beam Divergence	Θ		22		°	Peak P _o =1W (FWHM)
Operating Voltage	V _f		2.1	2.5	V	Peak current=1.25A
Breakdown Voltage	V _b	-10			V	I _r =10uA
Dynamic Resistance	R _d			1	Ohm	Peak current=1.25A

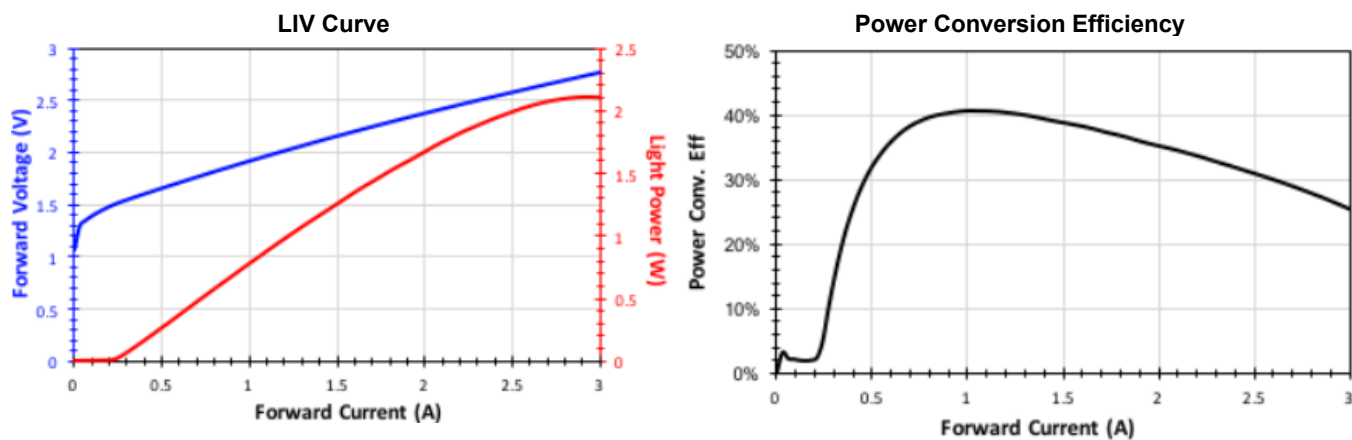
Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I _{th} Temperature Variation	ΔI _{th}		120		mA	T _a =-10 to 70°C
λ Temperature Coefficient	Δλ/ΔT		0.1		nm/°C	T _a =-10 to 70°C, I _r =500mA
η Temperature Variation	Δη/ΔT		-0.8		%/°C	T _a =-10 to 70°C, I _r =500mA

Typical Characteristic Curves



Test package sample: TO-can type, TO-46

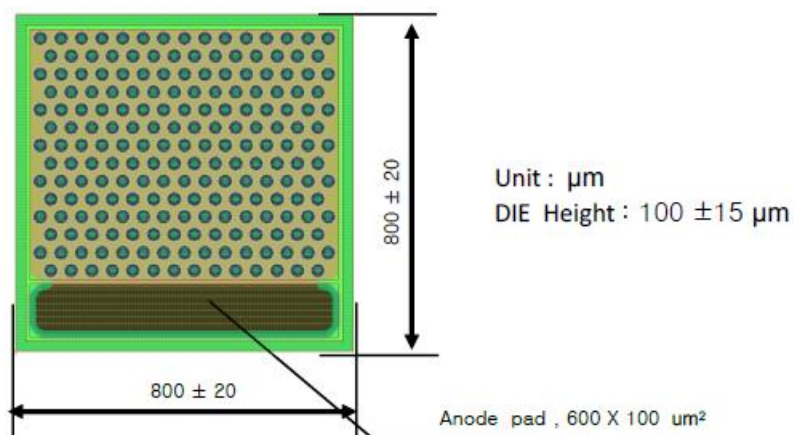
Test condition: CW mode: I_F step interval 15mA, Delay time 2msec



Test package sample: TO-can type, TO-46

Test condition: QCW mode: I_F step interval 30mA, 1kHz, 12.5% duty ratio

Outline Dimensions



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.