VCC-85G30A

850nm 30mW Gaussian Beam VCSEL Chip

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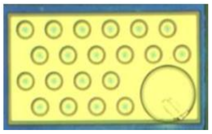
Data Sheet



Features

- 850nm multi-emitter VCSEL chip
- Output power: 30mW
- Gaussian beam profile
- Multiple mesa type
- High reliability

Applications

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

Specifications

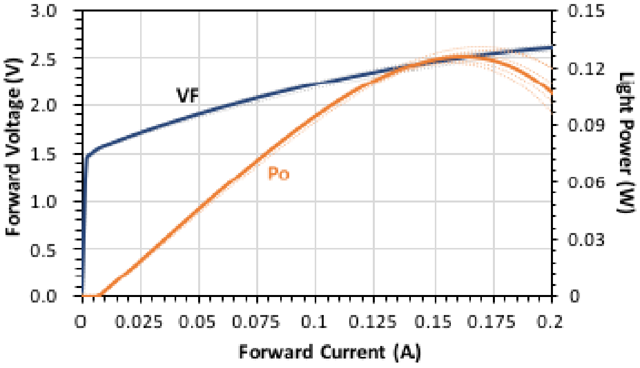
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	-10	60	°C	
Continuous Forward Current		50	mA	

Electro-Optical Characteristics (T_a=25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		8.0		mA	CW
Slope Efficiency	η		1.0		W/A	I_f=40mA
Optical Output Power	P_o		30		mW	I_f=40mA
Peak Wavelength	λ_P	840	850	860	nm	I_f=40mA
Beam Divergence	Θ		11		°	I_f=40mA (FWHM)
Forward Voltage	V_f		1.9		V	I_f=40mA
Breakdown Voltage	V_b	-9			V	
Dynamic Resistance	R_d		7		Ohm	I_f=40mA

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}		3.0		mA	T_a=-10 to 60°C
λ Temperature Coefficient	$\Delta\lambda/\Delta T$		0.06		nm/°C	T_a=-10 to 60°C, I_f=40mA

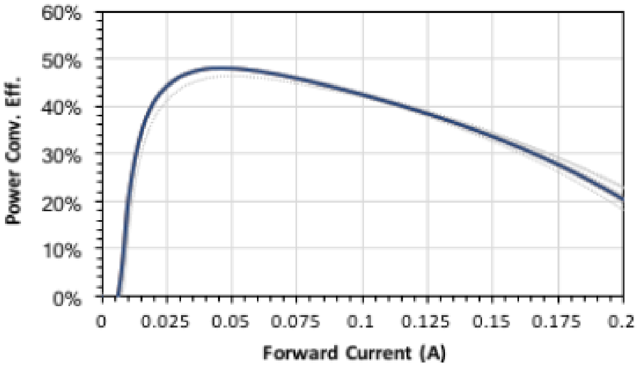
Typical Characteristics

LIV Curve



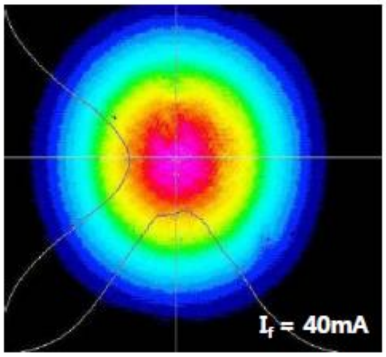
Test PKG sample: TO-can type, TO-46
Test condition: CW: IF step interval 2mA, Delay time 2msec

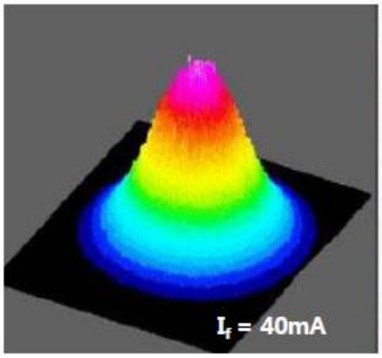
Power Conversion Efficiency



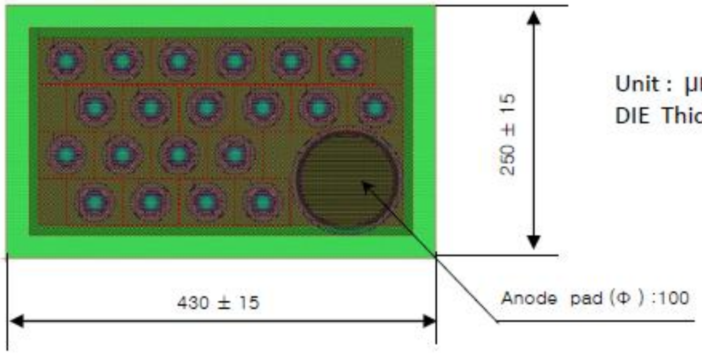
Test PKG sample: TO-can type, TO-46
Test condition: CW: IF step interval 2mA, Delay time 2msec

FFP





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.