

#### Features

- : 680nm multi-mode emitter
- : 7mW VCSEL
- : Low threshold and operating currents
- :
- :
- :

#### Description



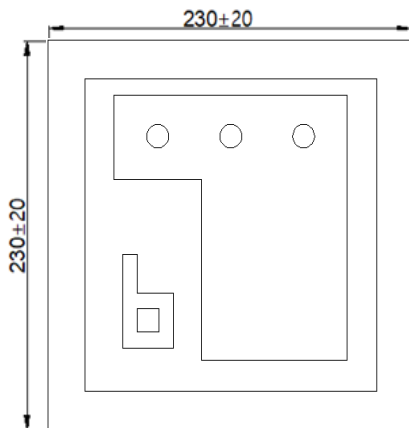
#### Applications

- : Industrial sensors
- : Low light laser therapy
- :
- :

#### Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	0 to 50 °C
Continuous Forward Current	20mA
Continuous Reverse Voltage	5V(@10uA)

#### Dimensions



Unit :  $\mu\text{m}$

Height :  $120 \pm 10\mu\text{m}$



Electro-Optics Characteristics ( T<sub>a</sub>=25 °C unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I <sub>th</sub>		5.0		mA	CW
I <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>		2.0		mA	T <sub>a</sub> = 0 to 50 °C
Slope Efficiency	η		0.5		W/A	I <sub>f</sub> = 15mA
Optical Output Power	P <sub>o</sub>		7		mW	I <sub>f</sub> = 15mA
Peak Wavelength	λ <sub>p</sub>	670	680	690	nm	I <sub>f</sub> = 15 mA
λ Temperature Variation	Δ λ / ΔT		0.06		nm/ °C	T <sub>a</sub> = 0 to 50 °C at 15mA
Beam Divergence	Θ		20		°	P <sub>o</sub> = 7 mW (Full width, 1/e <sup>2</sup> )
Operating Voltage	V <sub>f</sub>		2.5		V	I <sub>f</sub> = 15 mA
Breakdown Voltage	V <sub>b</sub>	-10			V	
Dynamic Resistance	R <sub>d</sub>		50		Ohm	I <sub>f</sub> = 15 mA

Notes

\* These specifications are subject to change without notice.



**NOTICE**

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

**DANGER**

The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.