

#### Features

- : 680nm multi-mode emitter
- : 1mW VCSEL
- : Low threshold and operating currents
- :

#### Description



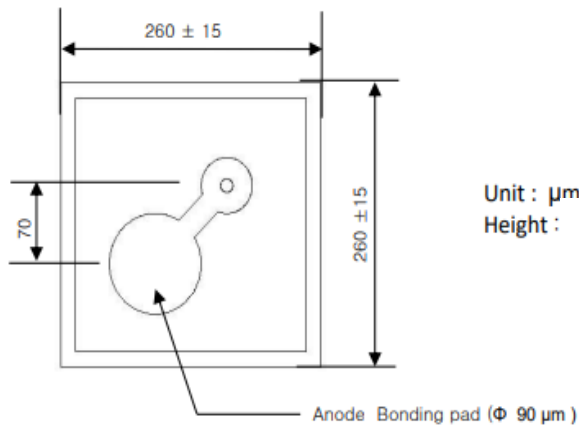
#### Applications

- : 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	10mA
Continuous Reverse Voltage	5V(@10uA)

#### Dimensions



**Electro-Optics Characteristics (  $T_a=25^\circ\text{C}$  unless otherwise stated)**

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	$I_{th}$		1.5		mA	CW
$I_{th}$ Temperature Variation	$\Delta I_{th}$		1.0		mA	$T_a = 0$ to $50^\circ\text{C}$
Slope Efficiency	$\eta$		0.4		W/A	$I_f = 5\text{mA}$
Optical Output Power	$P_o$		1.5		mW	$I_f = 5\text{mA}$
Peak Wavelength	$\lambda_p$	670	680	690	nm	$I_f = 5\text{mA}$
$\lambda$ Temperature Variation	$\Delta \lambda / \Delta T$		0.06		nm/ $^\circ\text{C}$	$T_a = 0$ to $50^\circ\text{C}$ at 5mA
Beam Divergence	$\Theta$		20		$^\circ$	$P_o = 1.5\text{mW}$ (Full width, $1/e^2$ )
Operating Voltage	$V_f$		2.5		V	$I_f = 5\text{mA}$
Breakdown Voltage	$V_b$	-10			V	
Dynamic Resistance	$R_d$		60		Ohm	$I_f = 5\text{mA}$

**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.