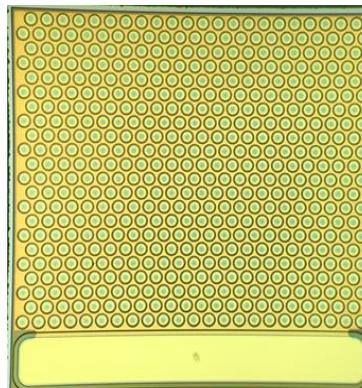




**Features**

- : 940nm wavelength range
- : Peak 2W VCSEL by pulse mode operation
- : Multi\_mode beam profile
- : High reliability
- : Other configurations available on request

**Description**



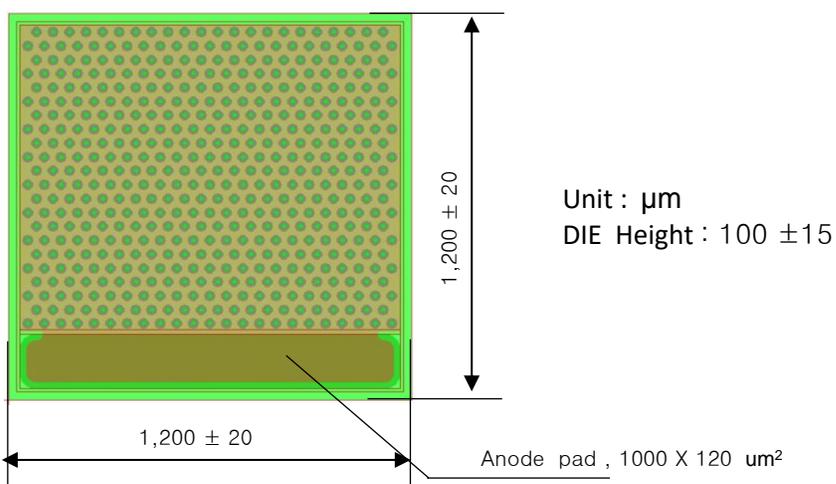
**Applications**

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

**Absolute Maximum Ratings**

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-10 to 70 °C
Continuous Forward Current	1 A

**Dimensions**



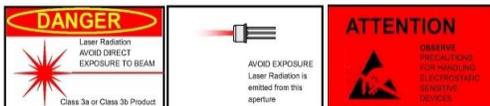


Electro-Optics Characteristics (  $T_a=25^{\circ}\text{C}$  unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	$I_{th}$		550		mA	CW
$I_{th}$ Temperature Variation	$\Delta I_{th}$		300		mA	$T_a = -10$ to $70^{\circ}\text{C}$
Slope Efficiency	$\eta$		1.0		W/A	$I_f = 1$ A
$\eta$ Temperature Variation	$\Delta\eta / \Delta T$		-0.8		% / $^{\circ}\text{C}$	$T_a = -10$ to $70^{\circ}\text{C}$ at 1 A
Peak Optical Output Power	$P_o$		2		W	Peak Pulse Current 2.5 A (12.5% duty ratio)
Peak Wavelength	$\lambda_p$	930	940	950	nm	Peak Pulse Current 2.5 A (12.5% duty ratio)
$\lambda$ Temperature Variation	$\Delta\lambda / \Delta T$		0.06		nm / $^{\circ}\text{C}$	$T_a = -10$ to $70^{\circ}\text{C}$ at 500mA
Spectral Bandwidth (RMS)	$\Delta\lambda$			2	nm	$I_f = 1$ A
Beam Divergence	$\Theta$		22		$^{\circ}$	Peak $P_o = 2$ W (FWHM)
Operating Voltage	$V_f$		2.1	2.5	V	Peak current = 2.5 A
Breakdown Voltage	$V_b$	-10			V	$I_r = 10\mu\text{A}$
Dynamic Resistance	$R_d$			1	Ohm	Peak current = 2.3 A

Notes

\* These specifications are subject to change without notice.

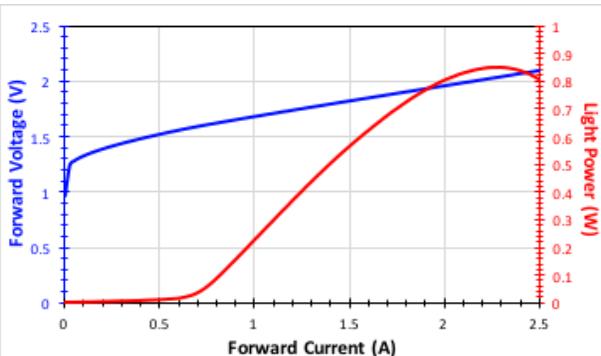


<b>NOTICE</b>	The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product
<b>DANGER</b>	The VCSEL is a class IIIb laser and should be treated as a 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.

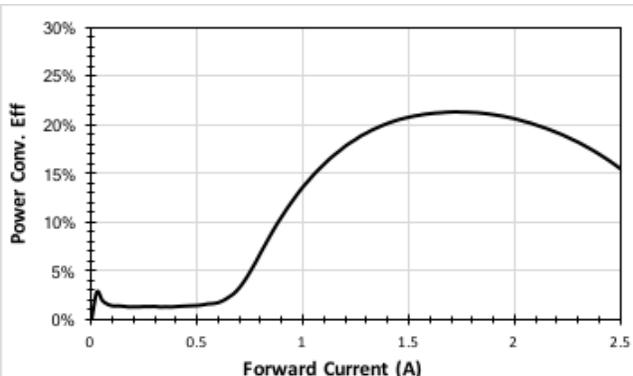


**Characteristics Curves**

**CW LIV Curve**

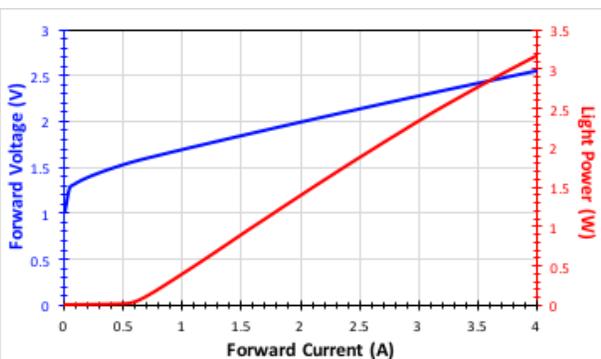


**CW Power conversion efficiency**

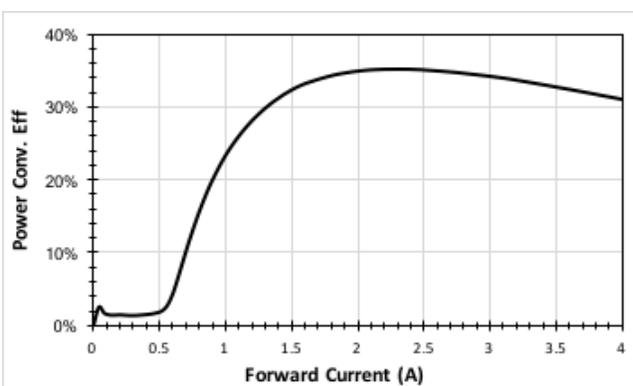


Test PKG sample : To-Can type, To-46  
 CW Mode : IF step interval 25mA, Delay time 2msec

**QCW LIV Curve**



**QCW Power conversion efficiency**



Test PKG sample : To-Can type, To-46  
 Test condition : QCW Mode : IF step interval 40mA, 1kHz, 12.5% duty ratio.