

**Features**

- : **20mW** High power VCSEL
- : High reliability
- : 850nm wavelength range
- : Flat window Type TO-46 Can Package
- : Other configurations available on request

**Applications**

- : Free Space Optics
- : Sensor

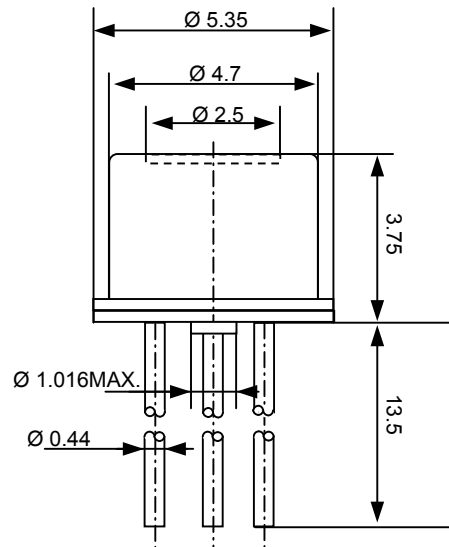
**Description**



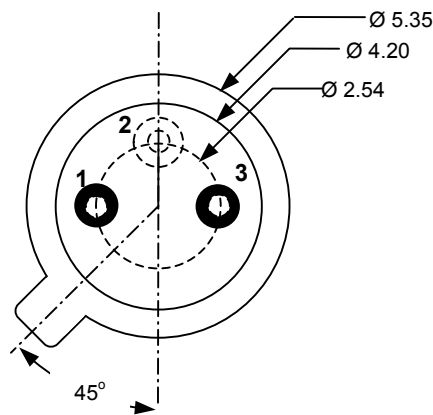
**Absolute Maximum Ratings**

Parameter	Rating
Storage Temperature	-40 to 100 °C
Operating Temperature	0 to 60 °C
Lead Solder Temperature	260 °C, 10 sec
Continuous Forward Current	70 mA
Continuous Reverse Voltage	5V (@10µA)

**Dimensions**



**Unit:mm**



**Bottom view**

**PINOUT**

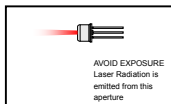
Number	Function
1	A <sub>LD</sub>
2	K <sub>LD</sub>
3	NC

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

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	$I_{th}$		15		mA	CW
$I_{th}$ Temperature Variation	$\Delta I_{th}$		10		mA	$T_a=0$ to $60^{\circ}\text{C}$
Slope Efficiency	$\eta$	0.2	0.4		W/A	$I_f = 50\text{mA}$
$\eta$ Temperature Variation	$\Delta\eta / \Delta T$		-0.5		%/ $^{\circ}\text{C}$	$T_a=0$ to $60^{\circ}\text{C}$ at 50mA
Optical Output Power	$P_o$	18	<b>20</b>		mW	$I_f = 50\text{mA}$
Peak Wavelength	$\lambda$	840	850	860	nm	$I_f = 50\text{mA}$
$\lambda$ Temperature Variation	$\Delta\lambda / \Delta T$		0.06			$T_a=0$ to $60^{\circ}\text{C}$ at 50mA
Spectral Bandwidth (RMS)	$\Delta\lambda$			0.85	nm	$I_f = 50\text{mA}$
Operating Voltage	$V_f$		2.1	2.6	V	$I_f = 50\text{mA}$
Breakdown Voltage	$V_b$		-10		V	
Dynamic Resistance	$R_d$		10	20	Ohm	$I_f = 50\text{mA}$

**Notes**

\* These specifications are subject to change without notice


**NOTICE**

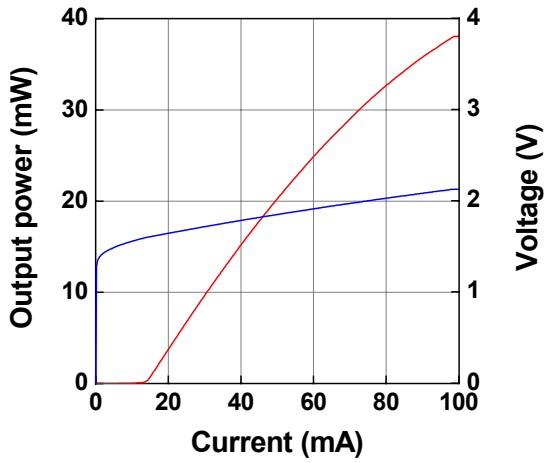
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

**DANGER**

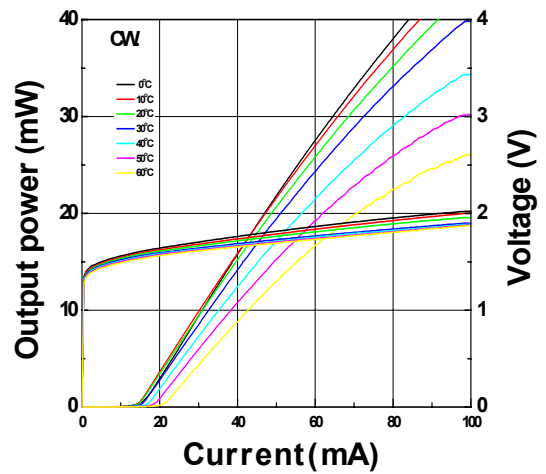
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

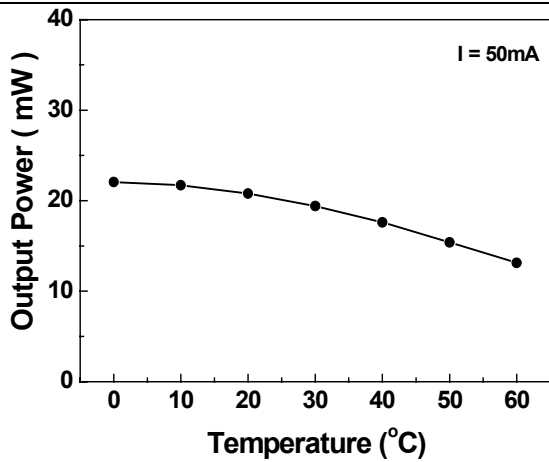
LIV Curve



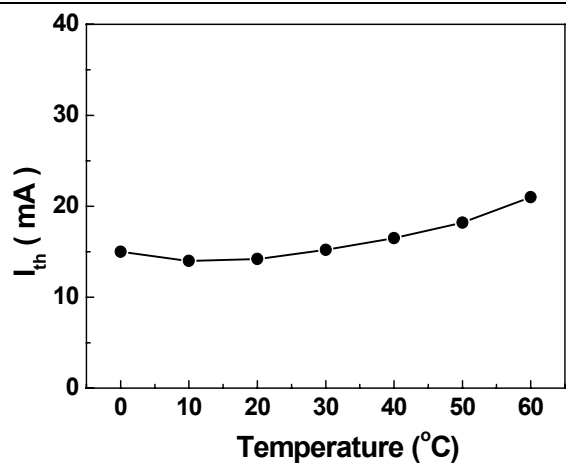
LIV vs Temperature



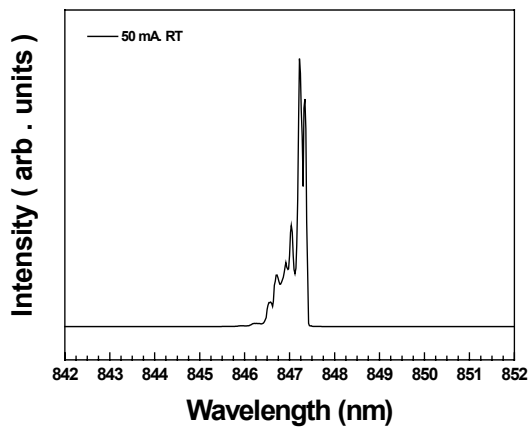
$P_0$  vs Temperature



$I_{th}$  vs Temperature



EL Spectrum



FFP

