

# XM85-R5P0U

Epoxy molded 850nm VCSEL Package (Round Type)

## Features

- : 850nm wavelength range
- : Narrow beam angle
- : Cost effective
- : Other configurations available on request

## Applications

- : Sensor

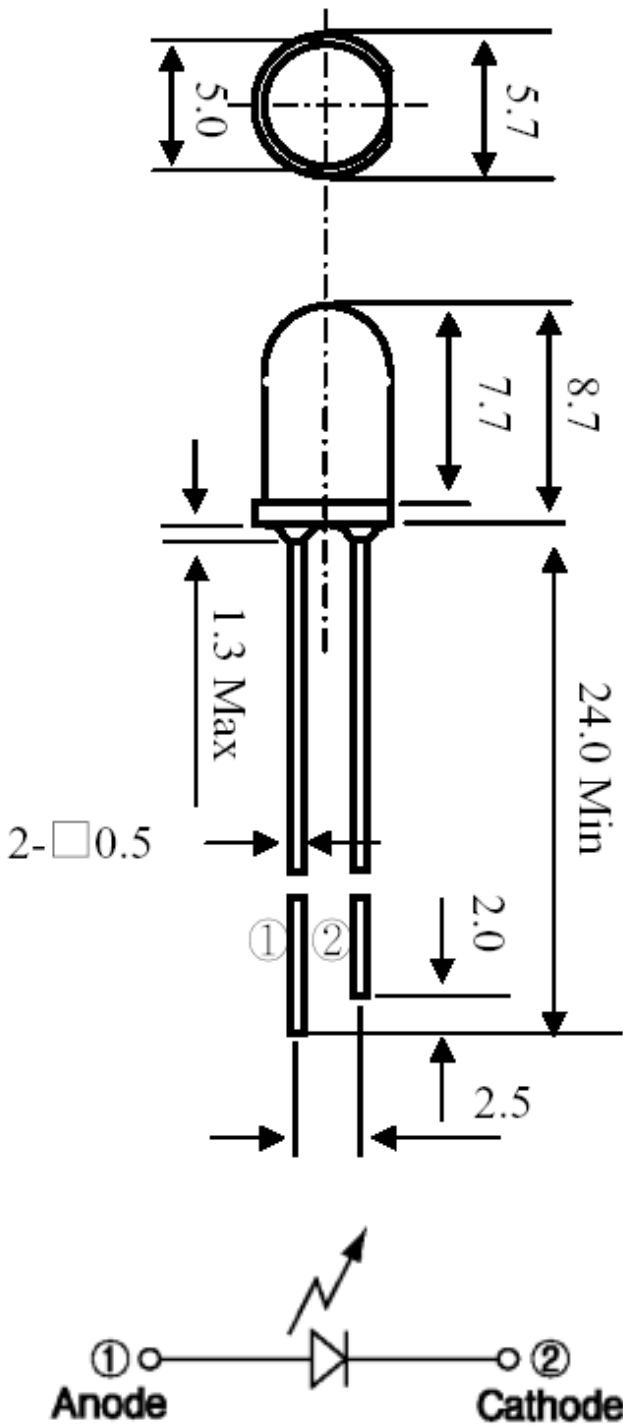
## Description



## Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 100 °C
Operating Temperature	0 to 70 °C
Lead Solder Temperature	260 °C, 5 sec
Continuous Forward Current	12mA
Continuous Reverse Voltage	5V (@10μA)

**Dimensions**



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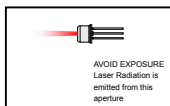
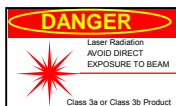
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## Electro-Optics Characteristics ( $T_a=25^{\circ}\text{C}$ unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	$I_{th}$		1.5	3	mA	CW
$I_{th}$ Temperature Variation	$\Delta I_{th}$		1.5		mA	$T_a=0$ to $70^{\circ}\text{C}$
Slope Efficiency	$\eta$	0.3	0.4	0.7	W/A	$I_f = 6\text{mA}$
$\eta$ Temperature Variation	$\Delta\eta / \Delta T$		-0.5		%/ $^{\circ}\text{C}$	$T_a=0$ to $70^{\circ}\text{C}$ at 6mA
Optical Output Power	$P_o$		2		mW	$I_f = 6\text{mA}$
Peak Wavelength	$\lambda$	840	850	860	nm	$I_f = 6\text{mA}$
$\lambda$ Temperature Variation	$\Delta\lambda / \Delta T$		0.06			$T_a=0$ to $70^{\circ}\text{C}$ at 6mA
Spectral Bandwidth (RMS)	$\Delta\lambda$			0.85	nm	$I_f = 6\text{mA}$
Operating Voltage	$V_f$		1.8	2.2	V	$I_f = 6\text{mA}$
Breakdown Voltage	$V_b$		-10		V	
Dynamic Resistance	$R_d$	20	35	55	Ohm	$I_f = 6\text{mA}$

## Notes

\* These specifications are subject to change without notice.



### NOTICE

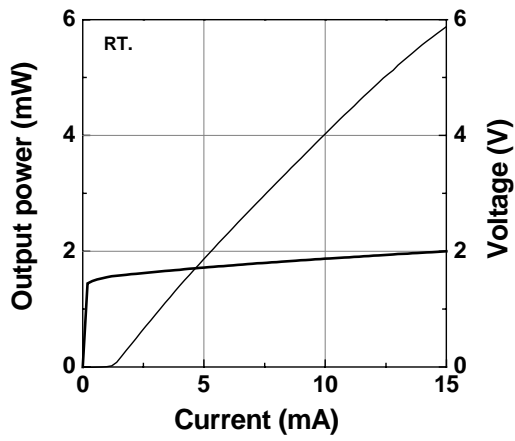
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

### DANGER

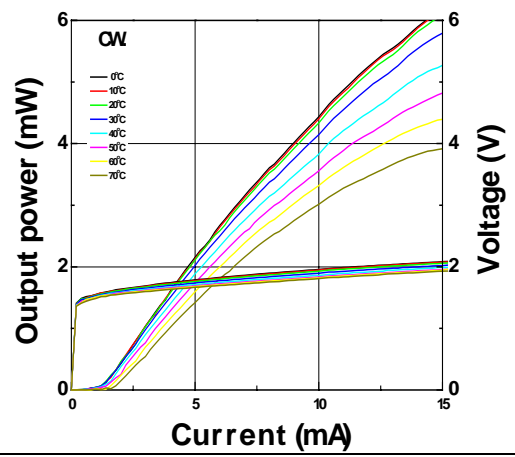
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

### Characteristics Curves

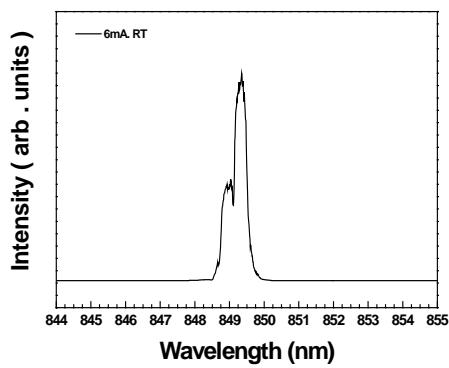
**LIV Curve**



**LIV vs Temperature**



**EL Spectrum**



**$I_{th}$  vs Temperature**

