

**Features**

- : 850nm wavelength range
- : Single mode operation available
- : Narrow beam angle
- : High reliability
- : **High resistance to ESD**
- : Other configurations available on request

**Applications**

- : Consumer electronics
- Laser mouse
- Laser printer
- Safety sensor
- Engine management system

**Description**

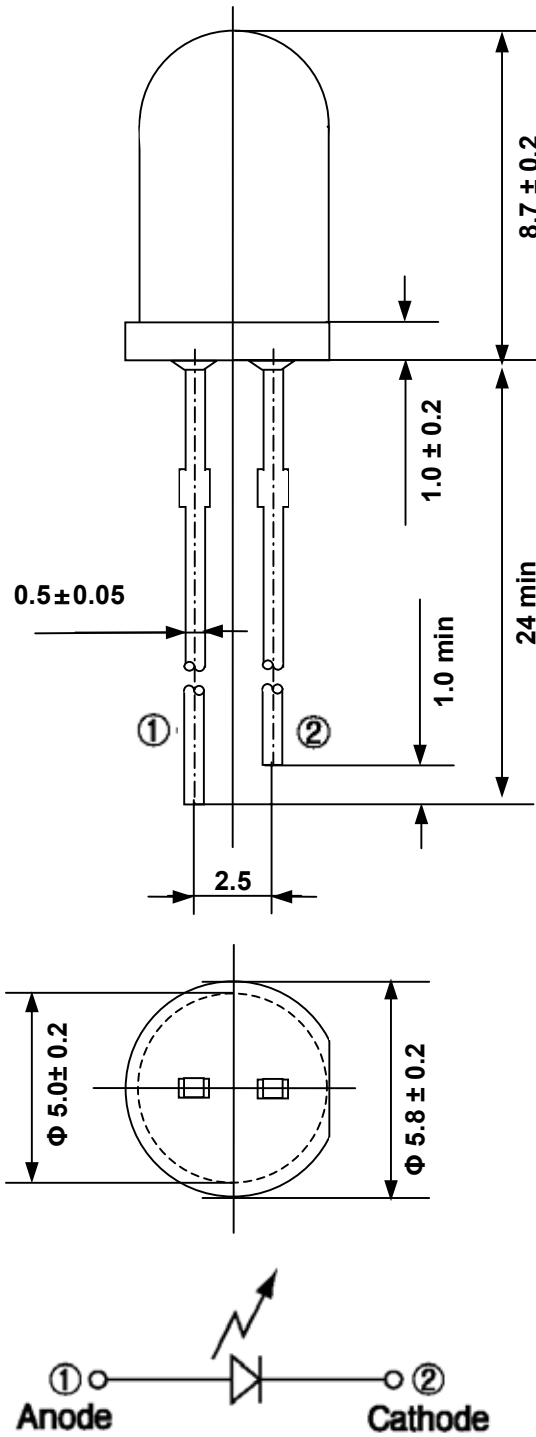


**Absolute Maximum Ratings**

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-10 to 70 °C
Lead Solder Temperature	260 °C, 5 sec
Continuous Forward Current	12mA
Continuous Reverse Voltage	5V (@10μA)

**Dimensions**

Units: mm

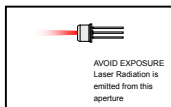
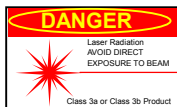


**Electro-Optics Characteristics (T<sub>a</sub>=25°C unless otherwise stated)**

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I <sub>th</sub>	2.0	3.0	4.0	mA	CW
I <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>		1.5		mA	T <sub>a</sub> = -10 to 70 °C
Slope Efficiency	η	0.2	0.4	0.6	W/A	I <sub>f</sub> = 6mA
η Temperature Variation	Δη / ΔT		-0.5		%/ °C	T <sub>a</sub> = -10 to 70 °C at 6mA
Optical Output Power	P <sub>o</sub>	0.8	1.0		mW	I <sub>f</sub> = 6mA
Peak Wavelength	λ	830	850	860	nm	I <sub>f</sub> = 6mA
λ Temperature Variation	Δλ / ΔT		0.06			T <sub>a</sub> = -10 to 70 °C at 6mA
Beam Divergence	Θ		4		°	P <sub>o</sub> =1.0mW, ( FWHM )
Operating Voltage	V <sub>f</sub>		1.7	2.1	V	I <sub>f</sub> = 6mA
Breakdown Voltage	V <sub>b</sub>		-10		V	
Dynamic Resistance	R <sub>d</sub>	20	30	50	Ohm	I <sub>f</sub> = 6mA

**Notes**

\* These specifications are subject to change without notice.



**NOTICE**

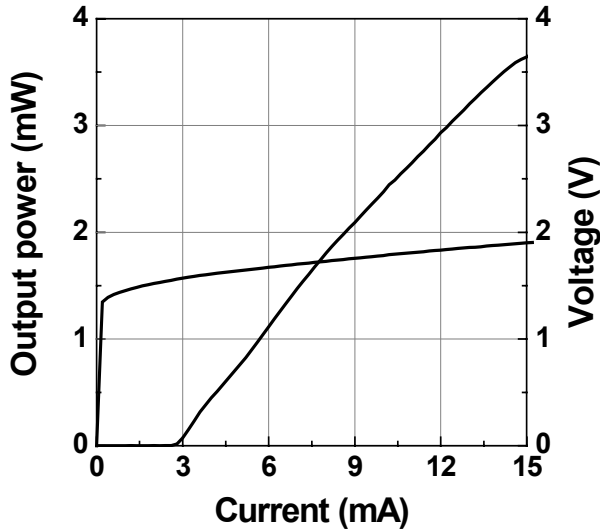
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

**DANGER**

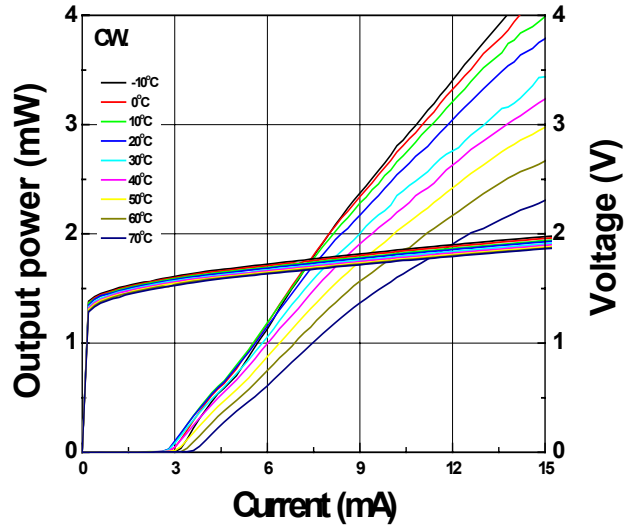
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

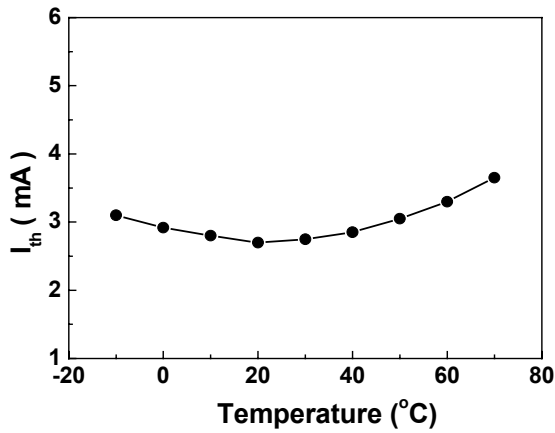
LIV Curve



LIV vs Temperature



$I_{th}$  vs Temperature



$P_o$  vs Temperature

