

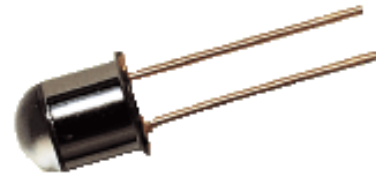
**Features**

- : **10mW** High power VCSEL
- : Narrow beam angle
- : High output power
- : TO-18 can package
- : Other configurations available on request

**Applications**

- : High speed Data Communications
- : Free Space Optics (FSO)
- : Sensor
- : Position Sensing
- : Encoder

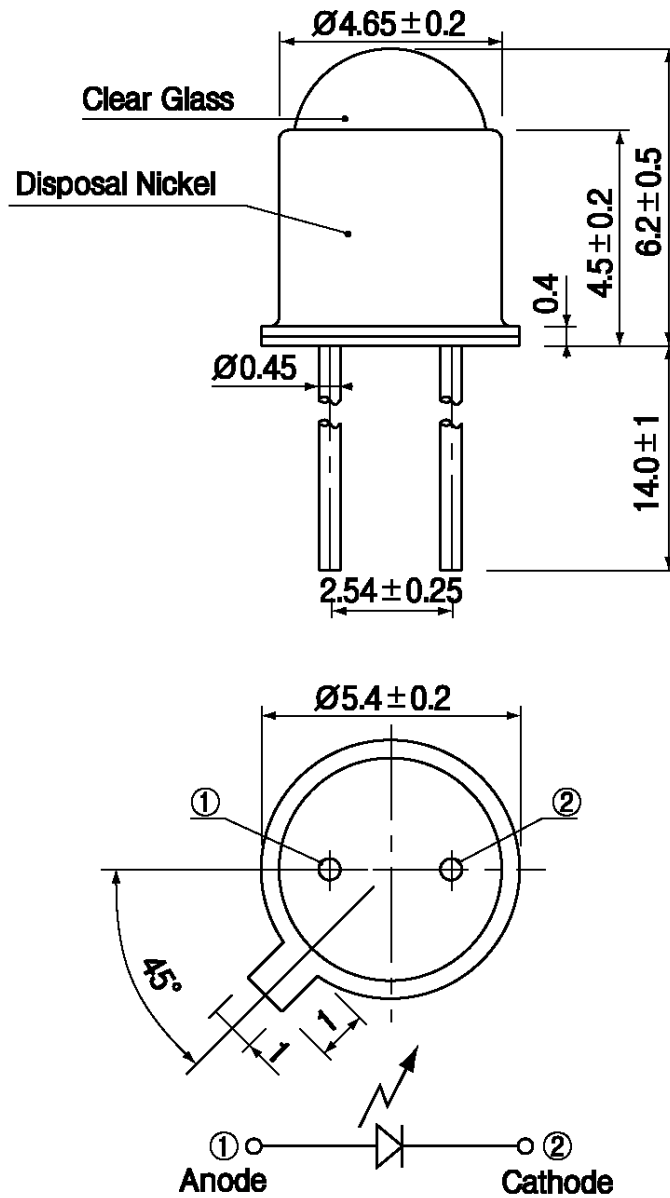
**Description**



**Absolute Maximum Ratings**

Parameter	Rating
Storage Temperature	-40 to 100 °C
Operating Temperature	0 to 70 °C
Lead Solder Temperature	260 °C, 10 sec
Continuous Forward Current	30mA
Continuous Reverse Voltage	5V (@10μA)

**Dimensions**

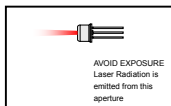
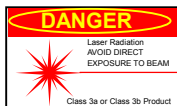


**Electro-Optics Characteristics (T<sub>a</sub>=25°C unless otherwise stated)**

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I <sub>th</sub>		5		mA	CW
I <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>		2.5		mA	T <sub>a</sub> =0 to 70 °C
Slope Efficiency	η	0.2	0.4		W/A	I <sub>f</sub> = 20mA
η Temperature Coefficient	Δη / ΔT		-0.5		%/ °C	T <sub>a</sub> =0 to 70 °C at 20mA
Optical Output Power	P <sub>o</sub>		10		mW	I <sub>f</sub> = 20mA
Peak Wavelength	λ	840	850	860	nm	I <sub>f</sub> = 20mA
λ <sub>p</sub> Temperature Coefficient	Δλ / ΔT		0.06			T <sub>a</sub> =0 to 70 °C at 20mA
Spectral Bandwidth (RMS)	Δλ			0.85	nm	I <sub>f</sub> = 20mA
Beam Divergence	Θ		2		°	P <sub>0</sub> =10mW, ( FWHM)
Forward Voltage	V <sub>f</sub>	1.6	1.9	2.2	V	I <sub>f</sub> = 20mA
Breakdown Voltage	V <sub>b</sub>		-10		V	
Dynamic Resistance	R <sub>d</sub>		25	40	Ohm	I <sub>f</sub> = 20mA

**Notes**

\* These specifications are subject to change without notice.


**NOTICE**

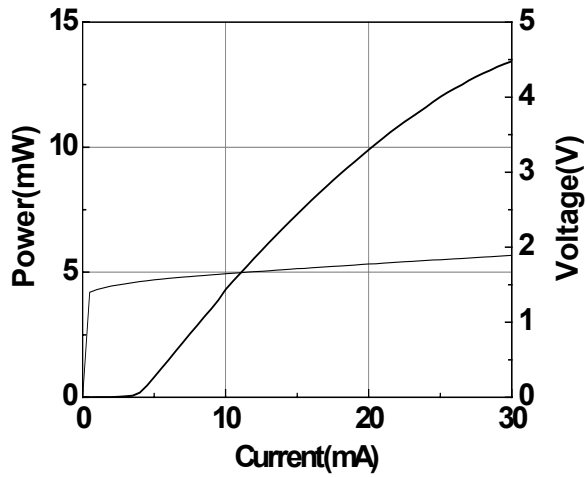
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

**DANGER**

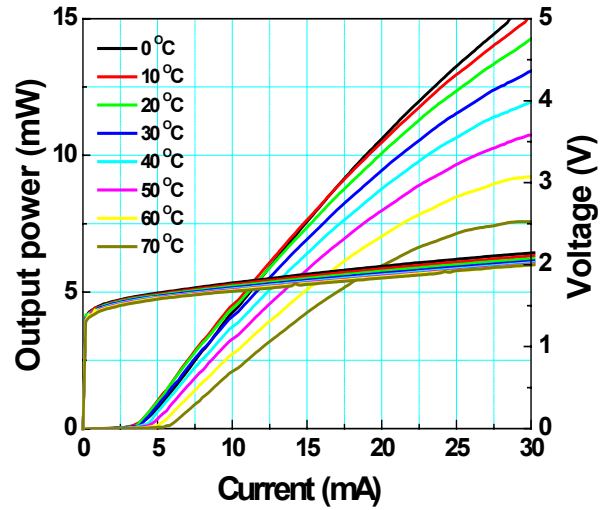
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

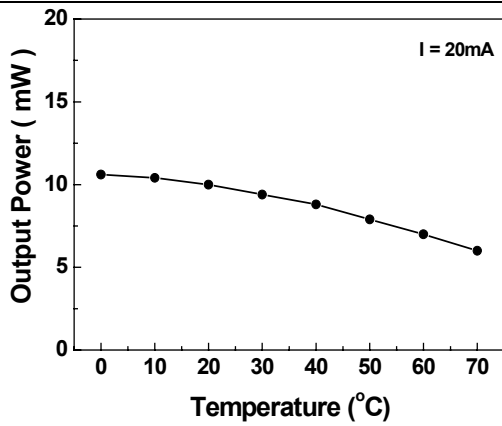
LIV Curve



LIV vs Temperature



$P_o$  vs Temperature



$I_{th}$  vs Temperature

