

Features

- : 850nm wavelength range
- : Single mode transverse and longitudinal mode
- : High reliability
- : **High resistance to ESD**
- : Cost effective
- : Other configurations available on request

Applications

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

Description

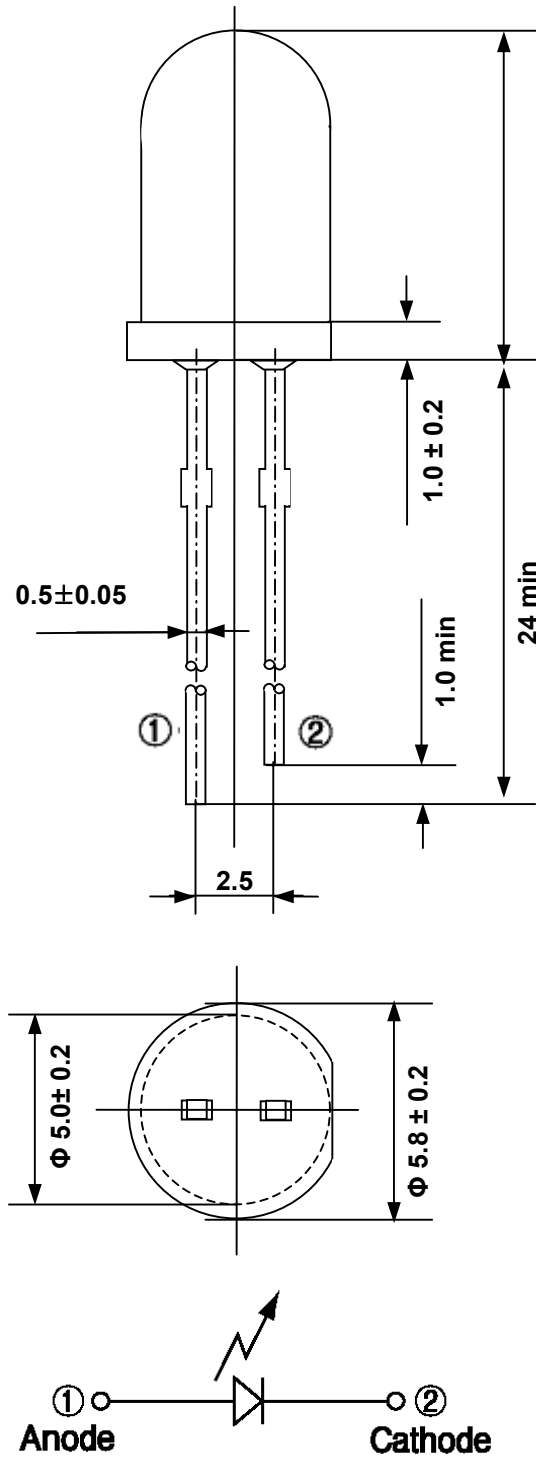


Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-10 to 70 °C
Lead Solder Temperature	260 °C, 5 sec
Continuous Forward Current	8mA
Continuous Reverse Voltage	5V (@10μA)

Dimensions

Units: mm

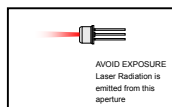
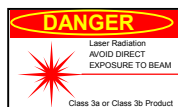


Electro-Optics Characteristics (T_a=25°C unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I _{th}		2	3	mA	CW
I _{th} Temperature Variation	ΔI _{th}		1.5		mA	T _a = -10 to 70°C
Slope Efficiency	η	0.20	0.35		W/A	P _o = 1mW
η Temperature Variation	Δη / ΔT		-0.5		%/ °C	T _a = -10 to 70°C at 5mA
Optical Output Power	P _o	0.7	1.0		mW	I _f = 5mA
Peak Wavelength	λ	830	850	860	nm	I _f = 5mA
λ Temperature Variation	Δλ / ΔT		0.06			T _a = -10 to 70°C at 5mA
Beam Divergence	Θ		4		°	P _o = 1mW, (FWHM)
Operating Voltage	V _f		1.9	2.2	V	I _f = 5mA
Breakdown Voltage	V _b		-10		V	
Dynamic Resistance	R _d		70	100	Ohm	I _f = 5mA
Side mode suppression ratio	SMSR	15			dB	P _o = 1mW
Max. singlemode Power	P _{SM}		1.0	1.3	mW	SMSR > 15dB

Notes

* These specifications are subject to change without notice.


NOTICE

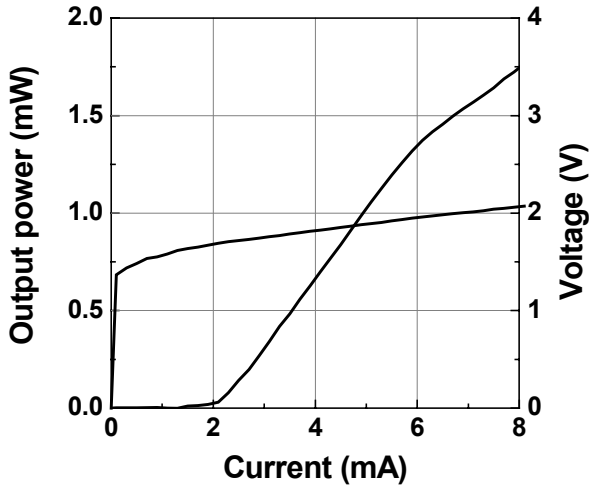
The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

DANGER

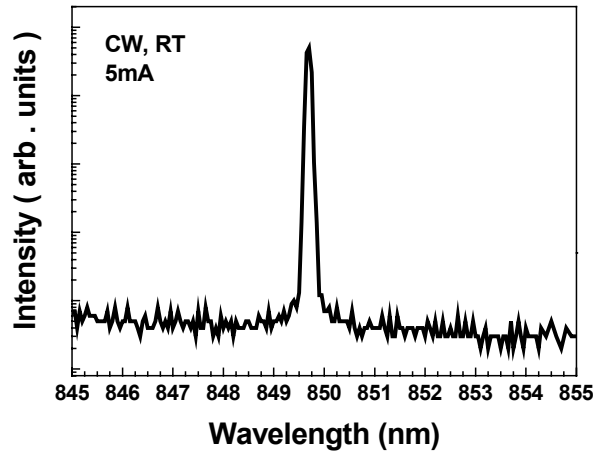
The VCSEL is a class IIIb laser and should be treated as a potential eye hazard. Due to the size of the component, the applicable warning logotype, aperture label, and certification / identification label cannot be placed on the component itself.

Characteristics Curves

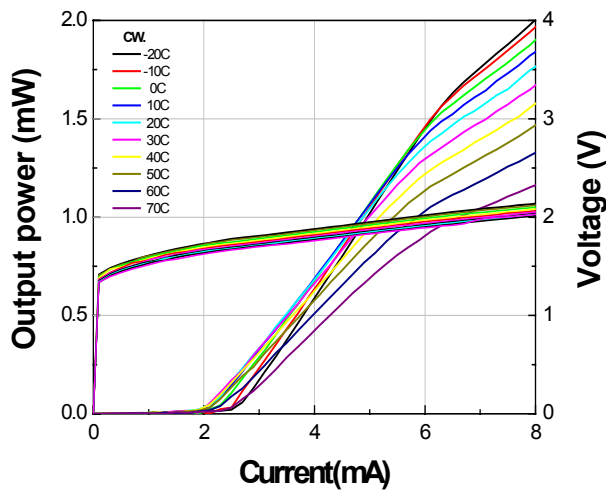
LIV Curve



EL Spectrum



LIV vs Temperature



I_{th} vs Temperature

