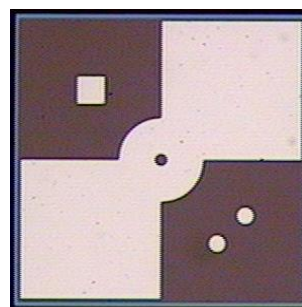


Features

- : 850nm wavelength range
- : Single mode transverse and longitudinal mode
- : Low current operation available
- : High reliability
- : High resistance to ESD
- : Other configurations available on request

Description



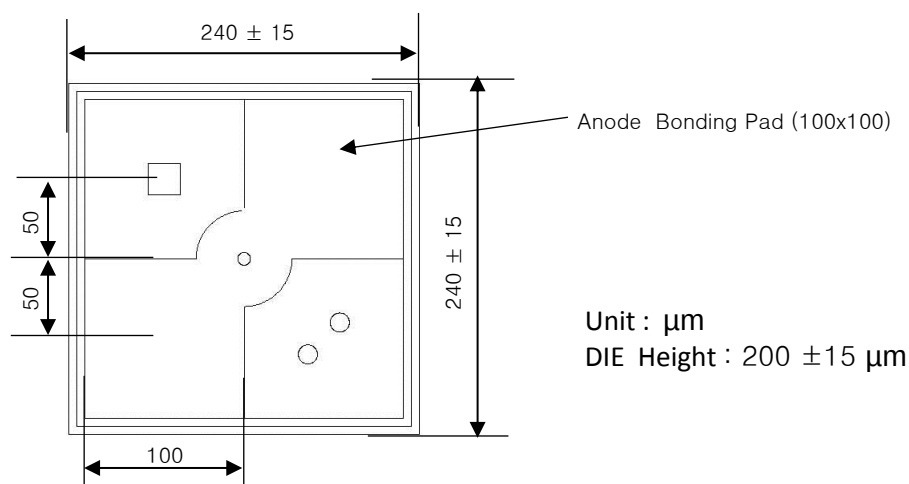
Applications

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

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-10 to 70 °C
Continuous Forward Current	6mA
Continuous Reverse Voltage	5V (@10μA)

Dimensions

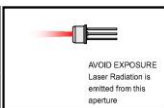


Electro-Optics Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I_{th}		2	3	mA	CW
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	$T_a = -10$ to 70°C
Slope Efficiency	η	0.2	0.35		W/A	$I_f = 3.5$ mA
η Temperature Variation	$\Delta \eta / \Delta T$		-0.5		% / $^{\circ}\text{C}$	$T_a = -10$ to 70°C at 3.5mA
Optical Output Power	P_o	0.25	0.5		mW	$I_f = 3.5$ mA
Peak Wavelength	λ_p	840	850	860	nm	$I_f = 3.5$ mA
λ Temperature Variation	$\Delta \lambda / \Delta T$		0.06		nm/ $^{\circ}\text{C}$	$T_a = -10$ to 70°C at 3.5mA
Beam Divergence	Θ	6	8		$^{\circ}$	$P_o = 0.5$ mW (FWHM)
Operating Voltage	V_f		1.8	2.1	V	$I_f = 3.5$ mA
Breakdown Voltage	V_b		-10		V	
Dynamic Resistance	R_d		70	90	Ohm	$I_f = 3.5$ mA
Side mode suppression ratio	SMSR	15	30		dB	$I_f = 3.5$ mA
			10		dB	$I_f = 4.0$ mA

Notes

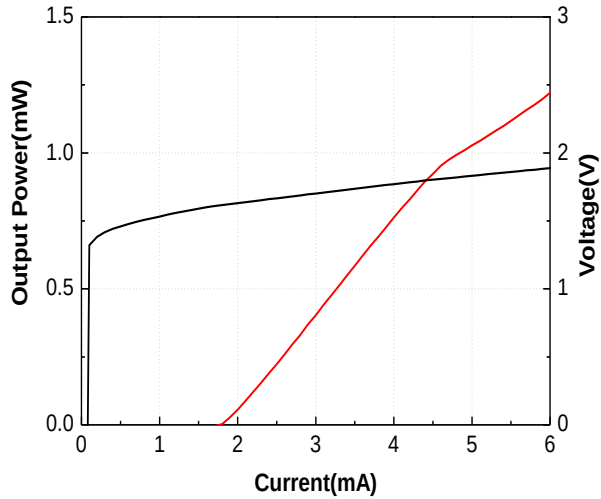
* These specifications are subject to change without notice.



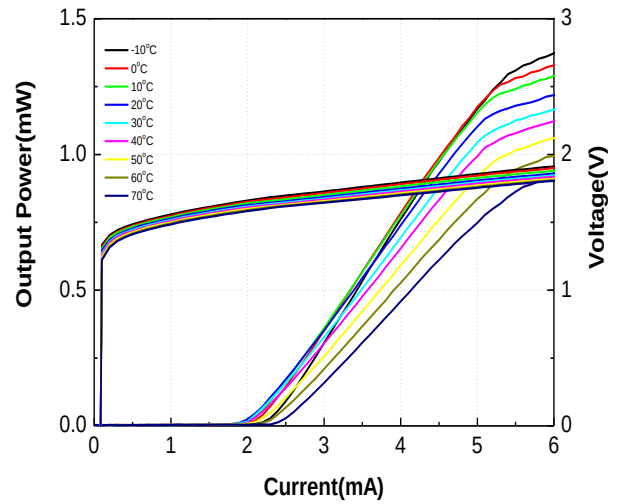
NOTICE	The inherent design of this component causes it to be sensitive to electrostatic discharge(ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product
DANGER	The VCSEL is a class IIIB laser and should be treated as a potential eye 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

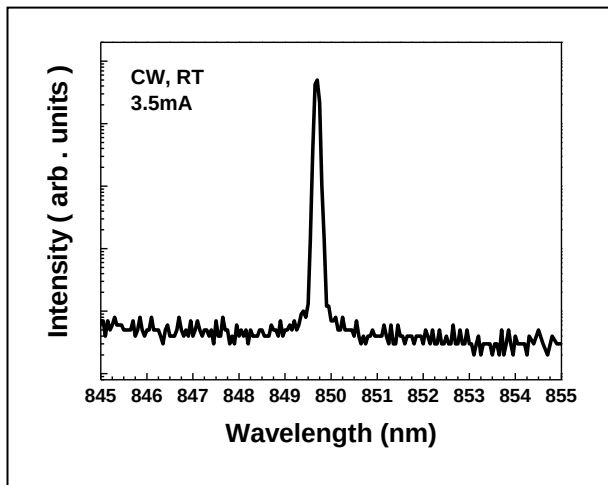
LIV Curve



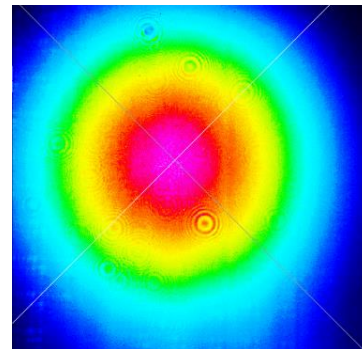
LIV vs Temperature



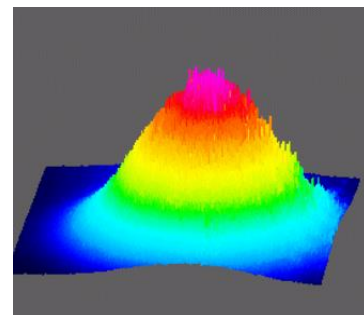
EL Spectrum



FFP



2D, 3.5mA



3D, 3.5 mA