SS85-7U001P2

850nm Polarized Single-Mode VCSEL Chip

Features

: 850nm wavelength range

: Single mode transverse and longitudinal mode

: **Polarization controlled**

: High reliability

: Low current and voltage

: Other configurations available on request

Applications

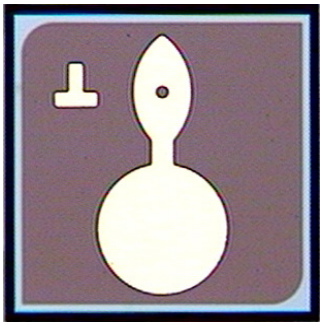
: Consumer electronics

: Laser Printer

: Laser Mouse

: Sensor

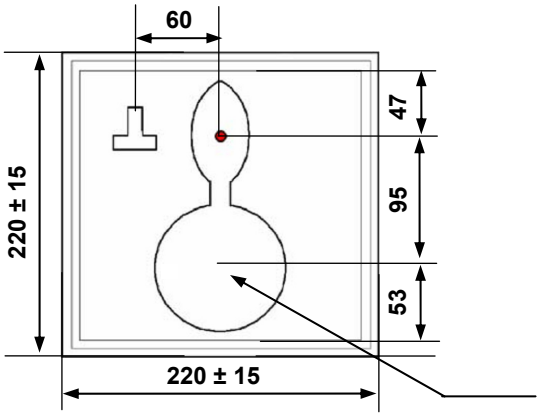
Description



Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-10 to 60 °C
Lead Solder Temperature	260 °C, 10 sec
Continuous Forward Current	8 mA
Continuous Reverse Voltage	5V (@10μA)

Dimensions



Unit: μm

Die Height: 200 ± 20 μm

Anode Bonding Pad (Φ 90 μm)

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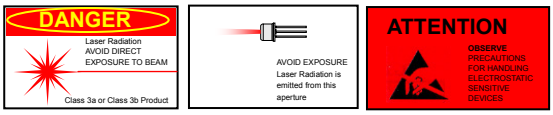
Electro-Optics Characteristics (T_a=25°C unless otherwise stated)

Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I_{th}		2	3	mA	CW
I_{th} Temperature Variation	ΔI_{th}		1		mA	T_a=-10 to 60 °C
Slope Efficiency	η	0.25	0.4		W/A	I_f = 4mA
η Temperature Variation	Δ η / ΔT		-0.5		%/ °C	T_a=-10 to 60 °C at 4mA
Optical Output Power	P_o	0.4	0.7		mW	I_f = 4mA
Peak Wavelength	λ		850	860	nm	I_f = 4mA
λ Temperature Variation	Δ λ / ΔT		0.06			T_a=-10 to 60 °C at 4mA
Beam Divergence	Θ	13	15	18	°	I_f = 4mA , ($1/e^2$)
Operating Voltage	V_f		1.8	2.0	V	I_f = 4mA
Breakdown Voltage	V_b		-10		V	
Dynamic Resistance	R_d		60	90	Ohm	I_f = 4mA
Side Mode Suppression Ratio	SMSR	15			dB	I_f = 4mA
Polarization Mode Suppression Ratio	PMSR	10			dB	I_f = 4mA
Max. Polarization controlled Single mode Output Power	P_{PCSM}		1.0		mW	PMSR .> 10dB

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 IIIa 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.

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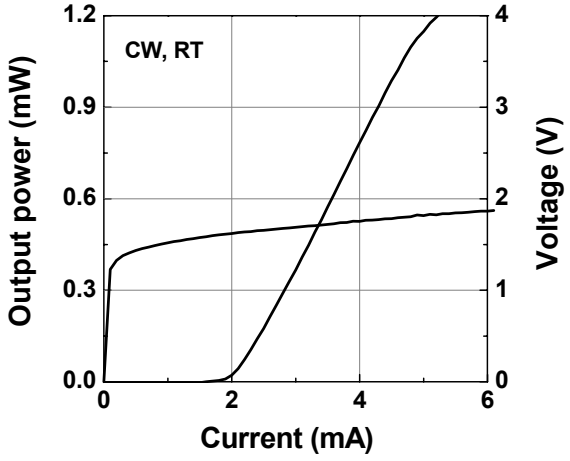
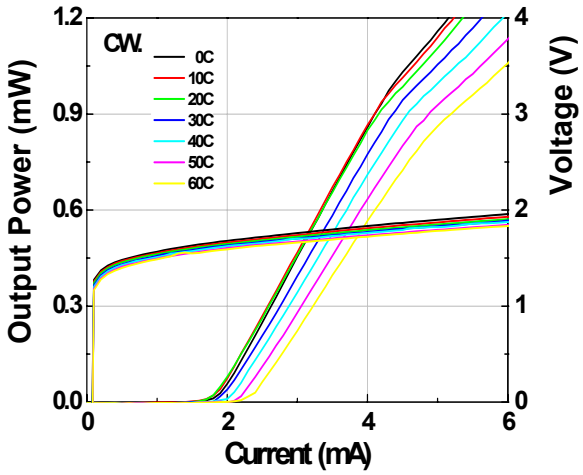
Characteristics Curves

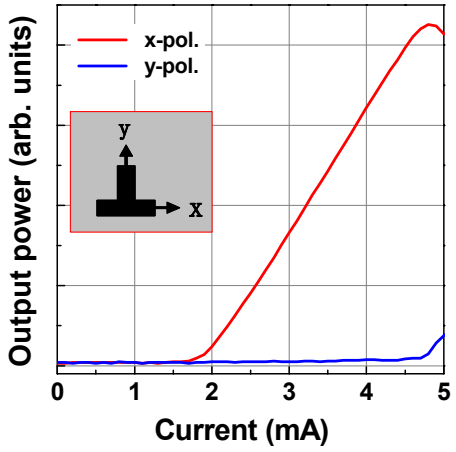
LIV Curve



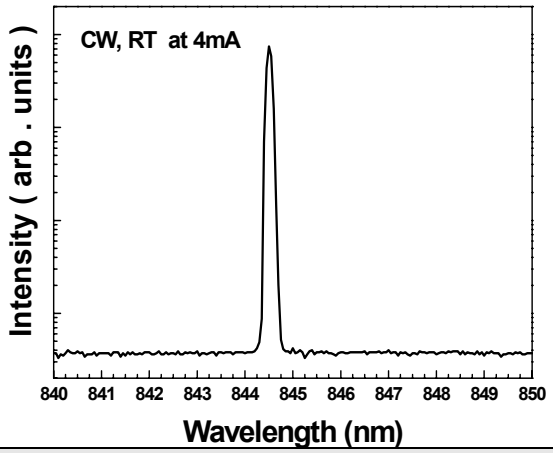
LIV vs Temperature



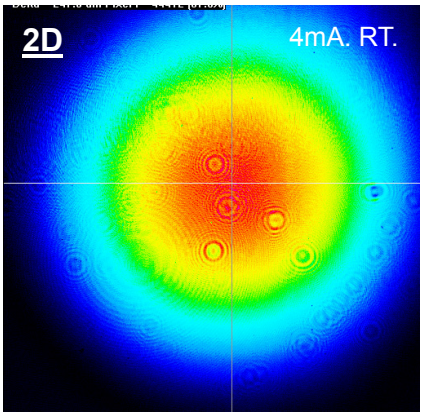
Polarization resolved LI Curve

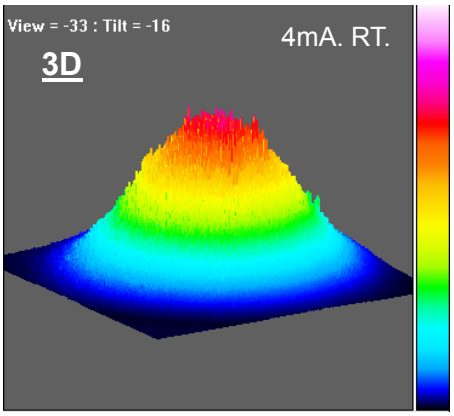


EL Spectrum



FFP





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