

SS67-4U001

Single-Mode 670nm VCSEL Chip

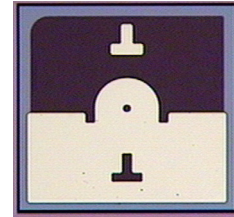
Features

- : 670nm wavelength range
- : Operating to over 50 °C
- : Gaussian beam shape
- : No astigmatism
- : Stable Polarization
- : Other configurations available on request

Applications

- : Consumer Electronics
- : Position Sensors
- : Medical Instruments
- : Home Networking
- : Data Link Communication, IEEE1394b
- : Low power consumption application
such as battery-operated equipment

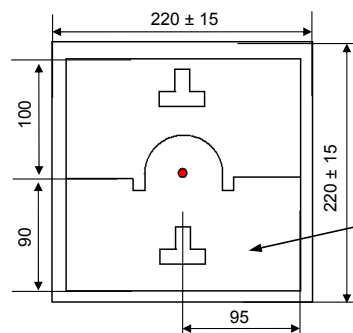
Description



Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40 to 85 °C
Operating Temperature	-20 to 50 °C
Lead Solder Temperature	260 °C, 10 sec
Continuous Forward Current	5 mA
Continuous Reverse Voltage	5V (@10µA)

Dimensions



Anode Bonding Pad (95 X 90)

Unit: µm

Die Height: 200±20 µm

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

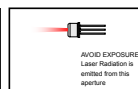
Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I_{th}		2.5	4	mA	CW
Slope Efficiency	η	0.1	0.2		W/A	$I_f = 4\text{mA}$
Optical Output Power	P_o	0.2	0.5		mW	$I_f = 4\text{mA}$
Peak Wavelength	λ	660	670	690	nm	$I_f = 4\text{mA}$
Beam Divergence	Θ				°	$P_o=0.5\text{mW}$, (Full Width, $1/e^2$)
Operating Voltage	V_f		2.3	2.7	V	$I_f = 4\text{mA}$
Dynamic Resistance	R_d		120	180	Ohm	$I_f = 4\text{mA}$
Max. singlemode Power	P_{SM}		0.3	0.4	mW	

Thermal Characteristics

Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Max. Operating Temperature						
Optical Output Power	$P_{T=50^\circ\text{C}}$		0.1		mW	$T_a = 50^\circ\text{C}$, 4mA
I_{th} Temperature Variation	ΔI_{th}		1.5		mA	$T_a = -20$ to 50°C
η Temperature Variation	$\Delta \eta / \Delta T$		-0.8		%/°C	$T_a = -20$ to 50°C at 4mA
λ Temperature Variation	$\Delta \lambda / \Delta T$		0.06		nm/°C	$T_a = -20$ to 50°C at 4mA

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.

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