

SS67-4U001

Single-Mode 670nm VCSEL Chip

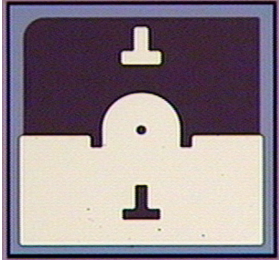
Features

- : 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

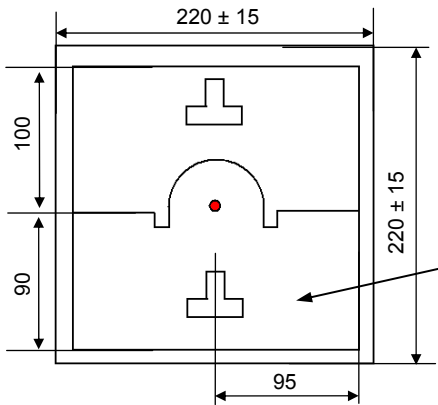
Description



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

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

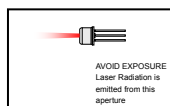
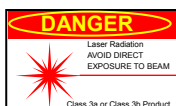
Parameters	Symbol	Specified			Unit	Test Conditions
		Min.	Typ.	Max.		
Threshold Current	I _{th}		2.5	4	mA	CW
Slope Efficiency	η	0.1	0.2		W/A	I _f = 4mA
Optical Output Power	P _o	0.2	0.5		mW	I _f = 4mA
Peak Wavelength	λ	660	670	690	nm	I _f = 4mA
Beam Divergence	Θ		12		°	P _o =0.5mW, (Full Width, 1/e ²)
			7		°	P _o =0.5mW, (FWHM)
Operating Voltage	V _f		2.3	2.7	V	I _f = 4mA
Dynamic Resistance	R _d		120	180	Ohm	I _f = 4mA
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 °C}		0.1		mW	T _a = 50 °C, 4mA
I _{th} Temperature Variation	ΔI _{th}		1.5		mA	T _a = -20 to 50 °C
η Temperature Variation	Δη / ΔT		-0.8		%/ °C	T _a = -20 to 50 °C at 4mA
λ Temperature Variation	Δλ / ΔT		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.

Characteristics Curves

