PRINCETON OPTRONICS

500mW CW 808nm VCSEL Array Submodule
Part # PCW-CS4-0.5-W0808

- *Vertical-Cavity Surface-Emitting Laser technology*
- *Very high reliability, can operate at high temperatures (up to 80 °C)*
- *Wavelength stabilized & narrow spectral width (<1nm)*
- *Easily soldered to heat exchanger*
- *Other wavelengths available upon request.*

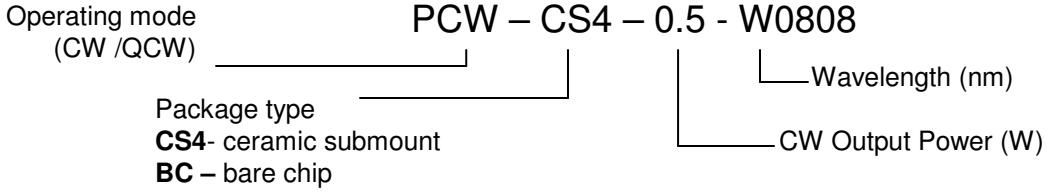
Optical & Electrical Characteristics

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
CW Output Power	0.6A, 20C Heat-sink	0.50	0.55	--	W
Threshold current	20C Heat-sink	--	0.10	0.16	A
Operating current	0.5W, 20C Heat-sink	--	0.60	0.70	A
Operating voltage	0.5W, 20C Heat-sink	--	2.1	2.4	V
Differential resistance	0.5W, 20C Heat-sink	--	1.00	1.20	Ω
Slope efficiency	20C Heat-sink	1	1.1	--	W/A
Conversion efficiency	0.5W, 20C Heat-sink	35	44	--	%
Center wavelength	0.5W, 20C Heat-sink	800	808	816	nm
Spectral width (FWHM)	0.5W, 20C Heat-sink	--	0.8	1	nm
Wavelength shift	20C Heat-sink	--	--	0.070	nm/°C
N.A. (4-sigma)	0.5W, 20C Heat-sink	--	0.15	0.17	--
Emission area	--	--	0.5x0.5	--	mm^2

Maximum Absolute Ratings

PARAMETER	CONDITIONS
Forward current	1A
Reverse current	25μA
Operating temperature	0 to +80 °C
Storage temperature	-40 to +80 °C

Ordering information



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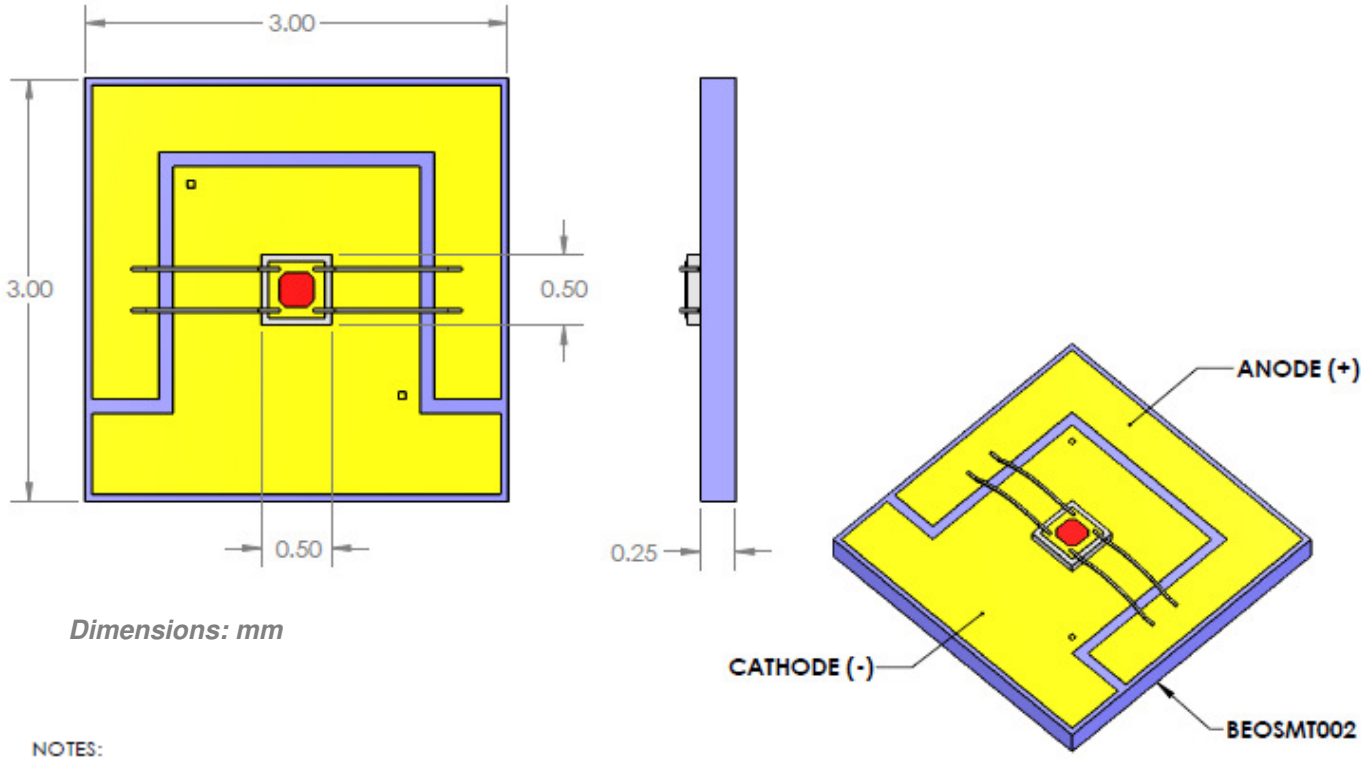
Mechanical Characteristics

PARAMETER	VALUE
Package width	3.0 +/-0.01 mm
Package length	3.0 +/-0.01 mm
Package height	0.70 +/-0.01 mm
Thermal resistance	< 10.0 °C/W
Max solder temperature	140 °C
Metalization	Ti/Pt/Au + 12μm Au



Dimensions: mm

NOTES:
1. WIREBONDS SHOWN FOR INFORMATION ONLY. ACTUAL WIREBOND SIZE, NUMBER AND CONFIGURATIONS MAY VARY.
2. OBSERVE PRECAUTIONS FOR HANDLING: ELECTRODES ARE CONNECTED TO ELECTROSTATIC SENSITIVE DEVICES.

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Laser diode product components are intended for use in a user-devised end system. However, these products are capable of emitting Class IV radiation. Extreme care must be exercised during their operation. Only persons familiar with the appropriate safety precautions should operate a laser product. Directly viewing the laser beam or exposure to specular reflections must be avoided. Serious injury may result if any part of the body is exposed to the beam. The eye is extremely sensitive to the infrared radiation and therefore, proper eye-wear must be worn at all times. Use of optical instruments with these products may increase eye hazard. Always wear eye protection when operating.

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