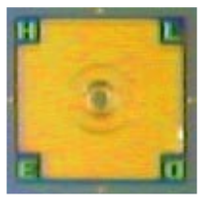
PRINCETON OPTRONICS



3mW Single-Mode 975nm VCSEL Chip
Part # PSM-BC-003-W0975

- *Vertical-Cavity Surface-Emitting Laser technology*
- *>3mW single-fundamental-mode power at 980nm*
- *Bottom-side emission*
- *Custom wavelengths available (808-1064nm)*

Optical & Electrical Characteristics

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
CW Single-mode Power	4mA, 25C Heat-sink	3	3.5	--	mW
Threshold current	25C Heat-sink	--	0.25	0.4	mA
Operating current	3mW, 25C Heat-sink	--	4	5	mA
Operating voltage	3mW, 25C Heat-sink	--	2.2	2.5	V
Differential resistance	3mW, 25C Heat-sink	--	200	220	Ω
Slope efficiency	25C Heat-sink	0.8	0.9	--	W/A
Conversion efficiency	1.4mW, 25C	40	45	--	%
Center wavelength	3mW, 25C Heat-sink	965	975	985	nm
SMSR (1)	3mW, 25C Heat-sink	-25	-30	--	dB
Wavelength shift	25C Heat-sink	0.060	0.065	0.070	nm/°C
Beam divergence (2)	3mW, 25C Heat-sink	--	16	20	°

(1) Side-Mode Suppression Ratio
(2) Full-width $1/e^2$

Maximum Absolute Ratings

PARAMETER	CONDITIONS
Forward current	6mA
Reverse current	25μA
Operating temperature	0 to +80 °C
Storage temperature	-40 to +80 °C

Ordering information

PSM - BC - 003 - W0975

Package type
BC=Die
BCS=Chip-on-submount

CW Output Power (mW)

Wavelength (nm)

M SQUARE
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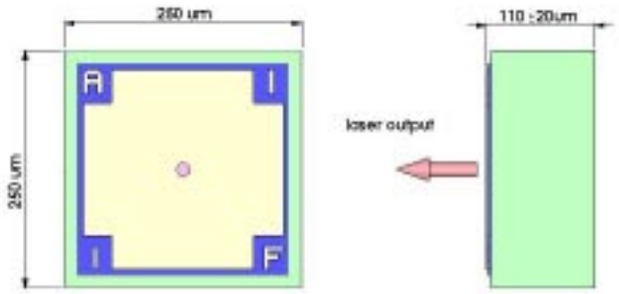
〒815-0041 福岡市南区野間1-10-18 TEL(092)554-6800 FAX(092)554-6802

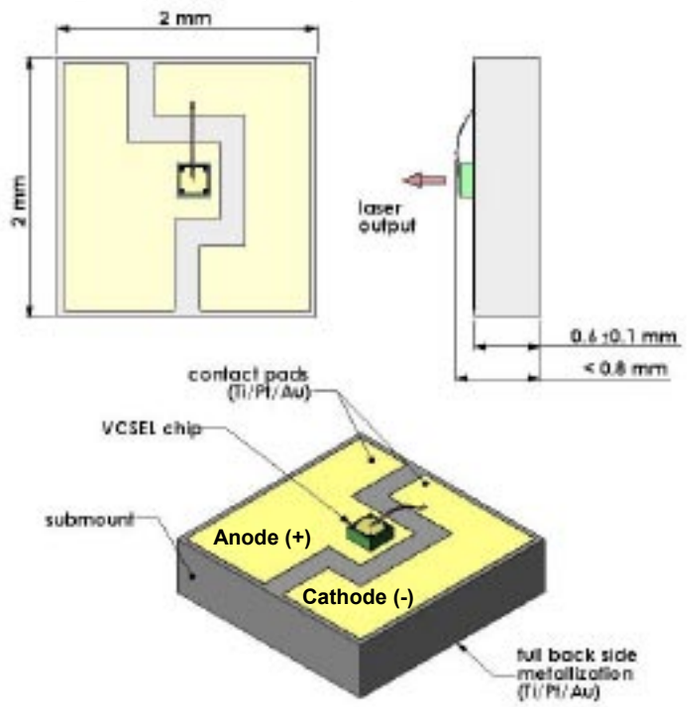
Mechanical Characteristics

Package Option BC: Bare die



PARAMETER	VALUE
Die width	250 +/-10μm
Die length	250 +/-10μm
Die height	110 +/-20μm
Max solder temperature	330 °C

Package Option BCS: Chip on submount



PARAMETER	VALUE
Package width	2.0 +/-0.05mm
Package length	2.0 +/-0.05mm
Package height	< 0.7mm
Max solder temperature	150 °C
Metalization	Ti/Pt/Au

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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 IIIB 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.

REV. A – 04/07

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