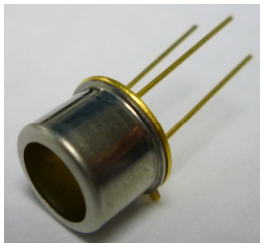
PRINCETON OPTRONICS

3mW Single-Mode, High-Speed 975nm VCSEL
Part # PSM-HS-TO-003-W0975

- *Vertical-Cavity Surface-Emitting Laser technology*
- *3 mW single-fundamental-mode power at 980nm*
- *5 GHz modulation speed*
- *Custom wavelengths available (808-1064nm)*



Optical & Electrical Characteristics

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

(1) Side-Mode Suppression Ratio
(2) Full-width, $1/e^2$
(3) Small signal, 3dB bandwidth

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 – HS – TO – 003 – W0975

- PSM – HS – TO: Package type
- 003: CW Output Power (mW)
- W0975: Wavelength (nm)

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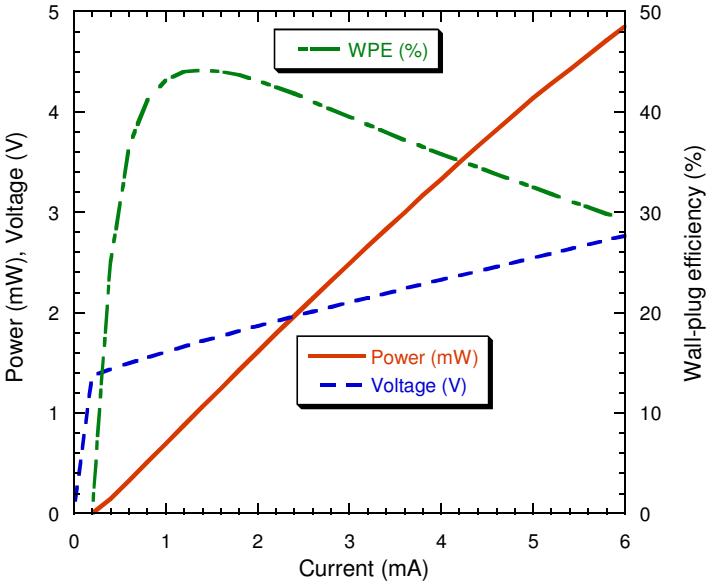
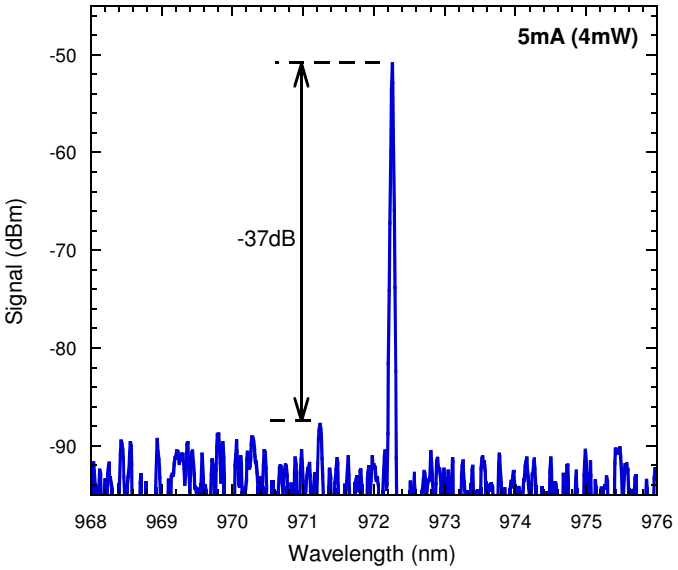
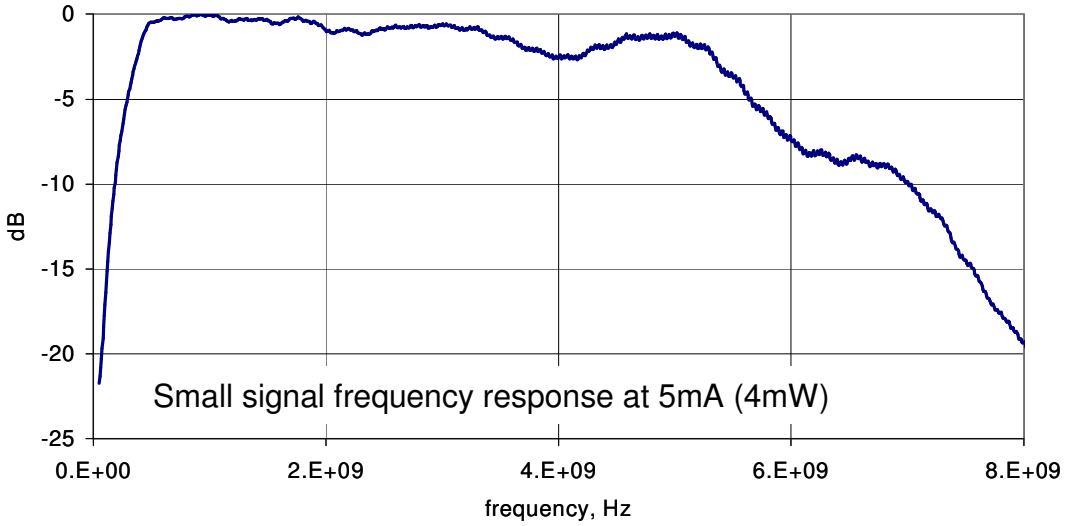
Typical Performance







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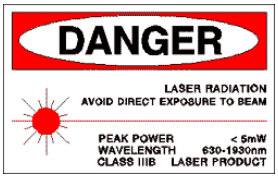
Laser diode product components are intended for use in a user-devised end system. However, these products are capable of emitting Class IIIB radiation. Extreme care must be exercised during their operation. Only persons familiar with the appropriate safety precautions should operate a laser product. 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.



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