

**60W QCW 1064nm VCSEL Array Submodule**  
**Part # PQCW-CS1-60-W1064**  
**(Preliminary)**

- Vertical-Cavity Surface-Emitting Laser technology
- Very high reliability, can operate at high temperatures (up to 80°C)
- Very high power density (up to 3.5kW/cm<sup>2</sup>)
- Wavelength stabilized & Narrow spectral width (<1nm)
- Custom wavelengths available (808-1064nm)

**Optical & Electrical Characteristics**

PARAMETER	CONDITIONS (1)	MIN	TYP	MAX	UNIT
QCW Output Power	73A, 25C Heat-sink	60	63	--	W
Threshold current	25C Heat-sink	--	3.5	4.5	A
Operating current	60W, 25C Heat-sink	--	68	73	A
Operating voltage	60W, 25C Heat-sink	--	2.6	2.9	V
Differential resistance	60W, 25C Heat-sink	--	19	23	mΩ
Slope efficiency	25C Heat-sink	0.85	0.95	--	W/A
Conversion efficiency	20W, 25C Heat-sink	40	45	--	%
Center wavelength	60W, 25C Heat-sink	1050	1064	1080	nm
Spectral width (FWHM)	60W, 25C Heat-sink	--	0.8	1	nm
Wavelength shift	25C Heat-sink	0.060	0.065	0.070	nm/°C
N.A. (4-sigma)	60W, 25C Heat-sink	--	0.16	0.18	--
Emission area	--	--	1.44x1.94	--	mm <sup>2</sup>

(1) QCW conditions: 100μsec pulse-width / 0.3% duty cycle (30Hz)

**Maximum Absolute Ratings**

PARAMETER	CONDITIONS
Forward current	125A
Reverse current	25μA
Operating temperature	0 to +80 °C
Storage temperature	-40 to +80 °C
Pulse width/duty-cycle	200μsec/2%

**Ordering information**

PQCW - CS1 - 60 – W1064

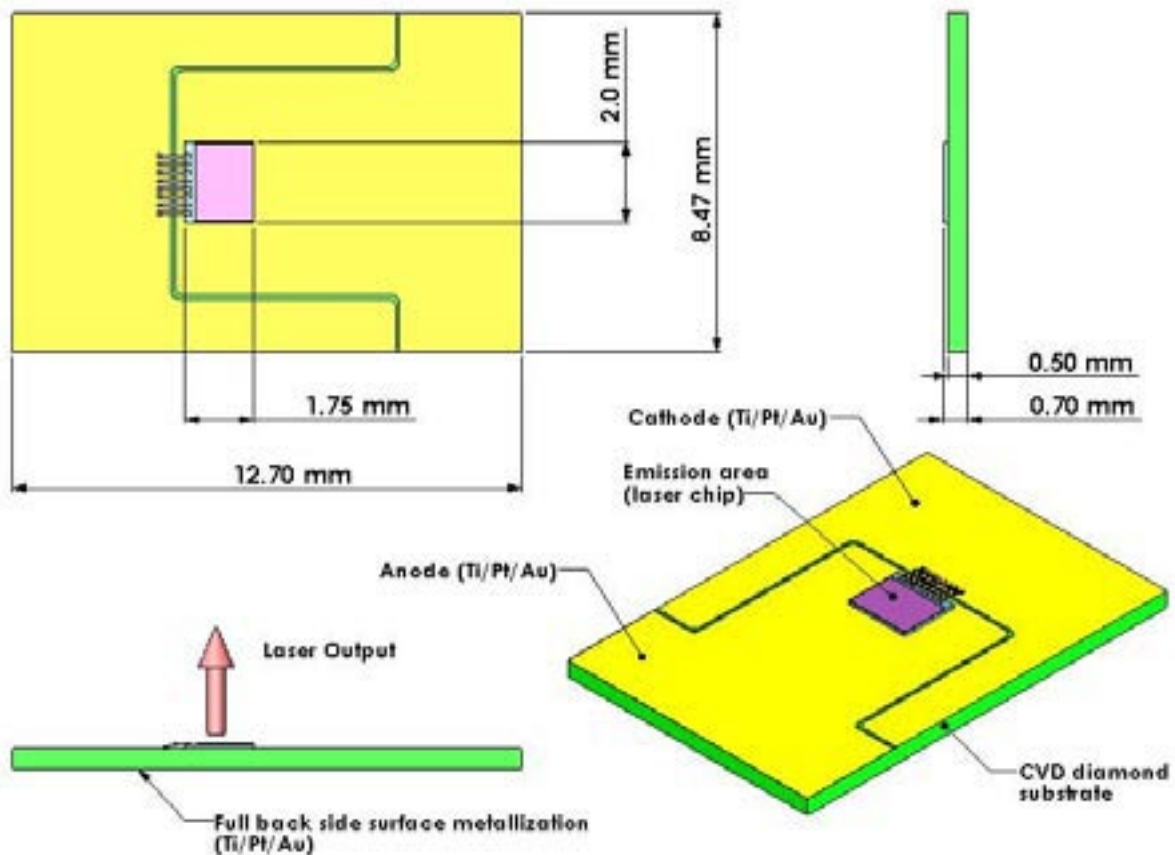
Package type\_\_\_\_\_

\_\_\_\_\_Wavelength (nm)

\_\_\_\_\_QCW Output Power (W)

## Mechanical Characteristics

PARAMETER	VALUE
Package width	8.47 +/-0.1 mm
Package length	12.70 +/-0.1 mm
Package height	0.70 +/-0.1 mm
Thermal resistance	< 0.8 °C/W
Max solder temperature	140 °C
Metalization	Ti/Pt/Au + 12 $\mu$ m 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 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.



REV. A – 04/07



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