

## 40W 1064nm VCSEL Array Submodule

### PCW-CS1-40-W1064

- 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
- Custom wavelength available (808-1064nm)

#### Optical & Electrical Characteristics

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
CW Output Power	I <sub>OP</sub> , 25°C Heat-sink	40	43	--	W
Threshold current	25°C Heat-sink	--	4	5	A
Operating current	P <sub>OUT</sub> , 25°C Heat-sink	--	48	55	A
Operating voltage	P <sub>OUT</sub> , 25°C Heat-sink	--	1.9	2.1	V
Differential resistance	25°C Heat-sink	--	15	18	mΩ
Slope efficiency	25°C Heat-sink	0.85	0.95	--	W/A
Conversion efficiency	20W, 25°C Heat-sink	40	48	--	%
Center wavelength	P <sub>OUT</sub> , 25°C Heat-sink	1050	1064	1080	nm
Spectral width(FWHM)	P <sub>OUT</sub> , 25°C Heat-sink	--	0.8	1	nm
Wavelength shift	25°C Heat-sink	0.060	0.065	0.070	nm/°C
N.A. (4-sigma)	P <sub>OUT</sub> , 25°C Heat-sink	--	0.15	0.17	--
Emission Area	--	--	4.7 x 4.7	--	mm <sup>2</sup>

#### Maximum Absolute Ratings

PARAMETER	CONDITIONS
Forward current	280 A
Reverse current	25 μA
Operating temperature	0 to +80 °C
Storage temperature	-40 to +80 °C

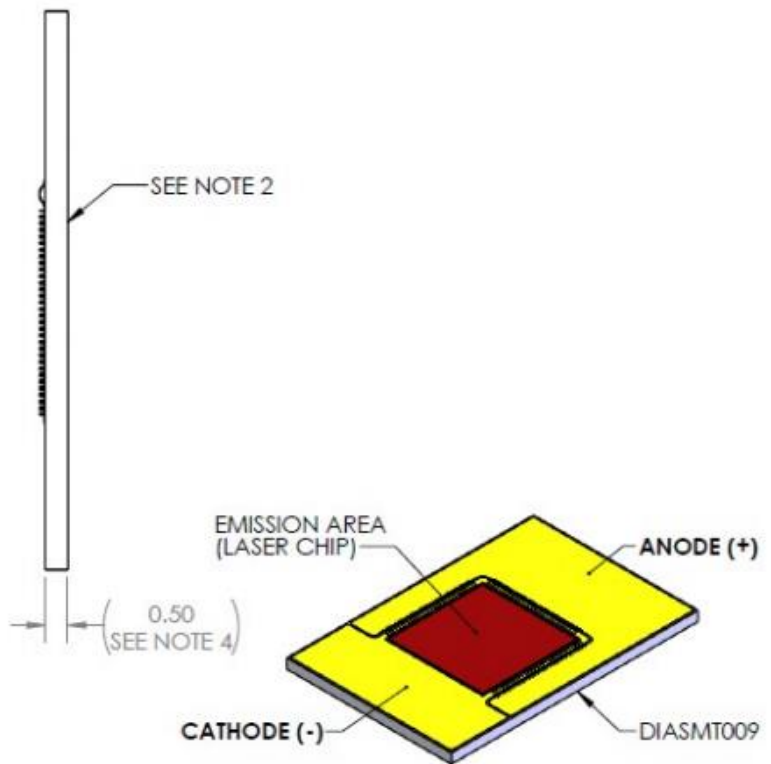
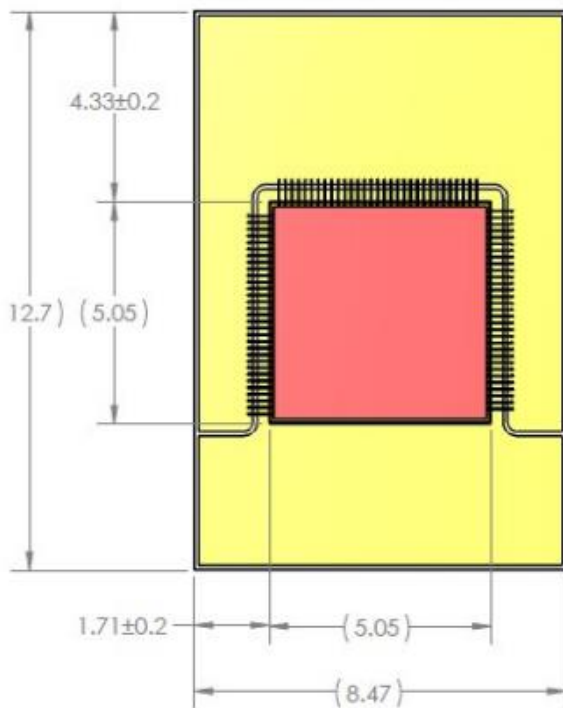
#### Ordering information

PCW – CS1 – 40 – W1064

Heat spreader type \_\_\_\_\_ Wavelength (nm)  
 \_\_\_\_\_ CW Output Power (W)

## Mechanical Characteristics

PARAMETER	CONDITIONS
Package width	8.47 ± 0.10 mm
Package length	12.70 ± 0.10 mm
Package height	0.6 ± 0.10 mm
Thermal resistance	<0.4 °C/W
Max solder temperature	140 °C
Metallization	Ti/Pt/Au + 12 μm Au



NOTES:  
 1. ANODE AND CATHODE METALLIZATION: Au PLATING FOR WIREBONDING AND SOLDERING.  
 2. FULL BACKSIDE METALLIZATION: Au PLATING FOR SOLDERING.  
 3. WIREBONDS SHOWN FOR INFORMATION ONLY.  
 4. WIREBOND SIZE, NUMBER AND CONFIGURATIONS MAY VARY.  
 5. SUBSTRATE THICKNESS.

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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.

