

70W CW 808nm VCSEL Array Submodule Part # PCW-CS1-70-W0808

- Vertical-Cavity Surface-Emitting Laser technology
- Very high reliability, can operate at high temperatures (up to 80 °C)
- Low thermal resistance (~ 0.16 °C/W)
- Wavelength stabilized & Narrow spectral width (< 1 nm)
- Easily soldered to heat exchanger

Optical & Electrical Characteristics

| PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|-------------------------|--------------------|-----|---------|-------|-----------------|
| CW Output Power | 90A, 25C Heat-sink | 70 | 80 | -- | W |
| Threshold current | 25C Heat-sink | -- | 10 | 15 | A |
| Operating current | 70W, 25C Heat-sink | -- | 80 | 90 | A |
| Operating voltage | 70W, 25C Heat-sink | -- | 2.3 | 2.7 | V |
| Differential resistance | 70W, 25C Heat-sink | -- | 5.8 | 7.0 | m Ω |
| Slope efficiency | 25C Heat-sink | 1 | 1.1 | -- | W/A |
| Conversion efficiency | 40W, 25C Heat-sink | 40 | 43 | -- | % |
| Center wavelength | 70W, 25C Heat-sink | 800 | 808 | 816 | nm |
| Spectral width (FWHM) | 70W, 25C Heat-sink | -- | 0.8 | 1 | nm |
| Wavelength shift | 25C Heat-sink | -- | -- | 0.070 | nm/°C |
| N.A. (4-sigma) | 70W, 25C Heat-sink | -- | 0.15 | 0.17 | -- |
| Emission area | -- | -- | 4.7x4.7 | -- | mm ² |

Maximum Absolute Ratings

| PARAMETER | CONDITIONS |
|-----------------------|---------------|
| Forward current | 150A |
| Reverse current | 25 μ A |
| Operating temperature | 0 to +80 °C |
| Storage temperature | -40 to +80 °C |

Ordering information

PCW - CS1 - 70 - W0808

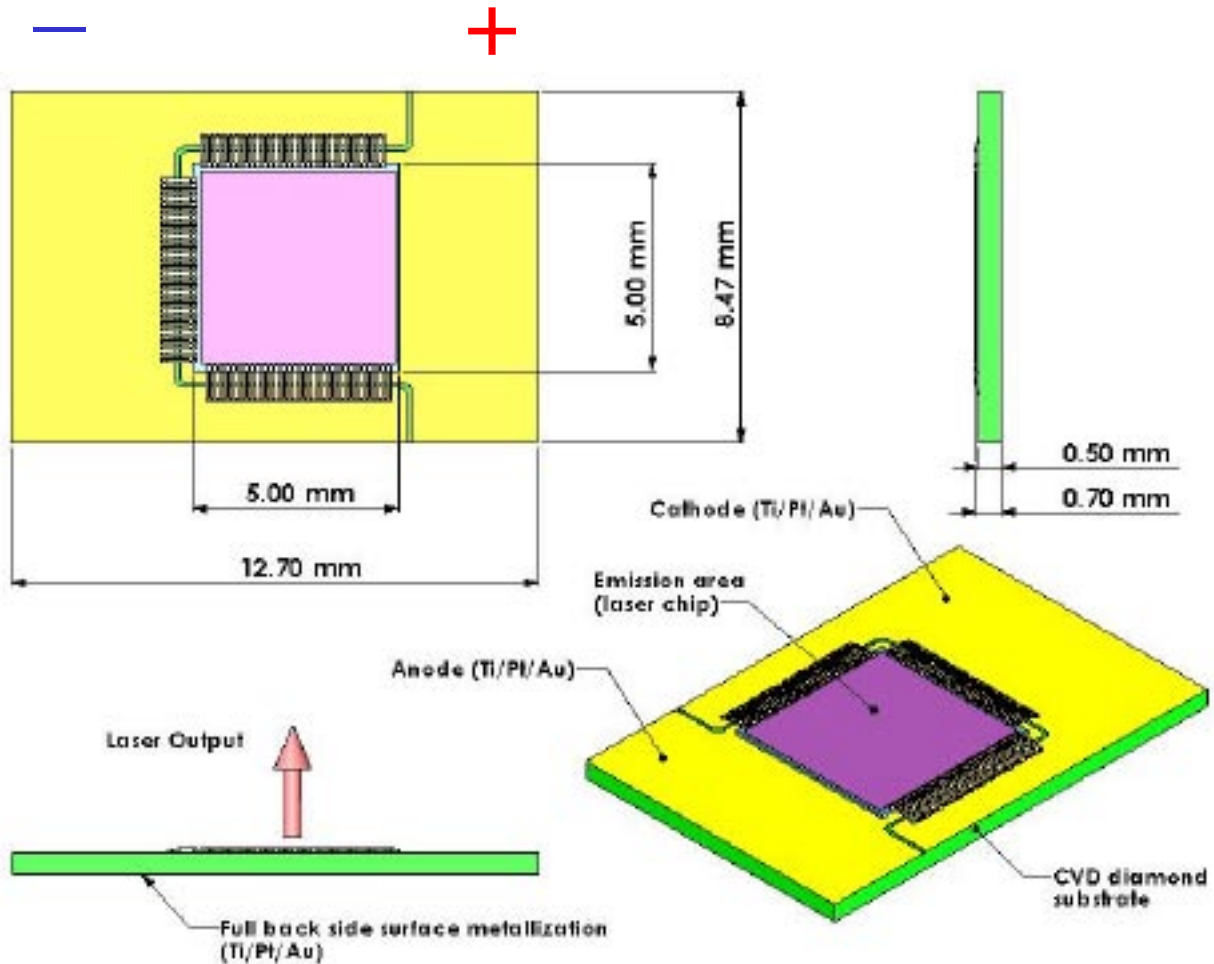
Package type

Wavelength (nm)

CW 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 | < 0.2 °C/W |
| Max solder temperature | 140 °C |
| Metalization | Ti/Pt/Au + 12 μ 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.



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