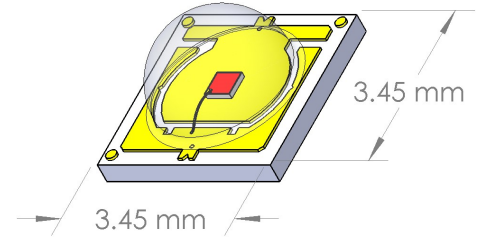


500mW 850nm VCSEL Array on Submount PCW-SME-0500-W0850

- Vertical-Cavity Surface-Emitting Laser technology
- Very high reliability
- Wavelength stabilized & narrow spectral width
- Uniform emission & illumination
- Surface mount encapsulated



Optical & Electrical Characteristics

| PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------|----------------------------|------|-----------|---------|-----------------|
| CW Output Power | I_{OP} , 20°C Heat-sink | 0.45 | 0.55 | -- | W |
| Threshold current | 20°C Heat-sink | -- | 0.1 | 0.16 | A |
| Operating current | P_{OUT} , 20°C Heat-sink | -- | 0.6 | 0.7 | A |
| Operating voltage | P_{OUT} , 20°C Heat-sink | -- | 2.1 | 2.5 | V |
| Differential resistance | P_{OUT} , 20°C Heat-sink | -- | 1.0 | 2.0 | Ω |
| Slope efficiency | 20°C Heat-sink | 0.9 | 1.1 | -- | W/A |
| Conversion efficiency | P_{OUT} , 20°C Heat-sink | 35 | 45 | -- | % |
| Center wavelength | P_{OUT} , 20°C Heat-sink | 840 | 850 | 860 | nm |
| Spectral width (FWHM) | P_{OUT} , 20°C Heat-sink | -- | 0.8 | 1.5 | nm |
| Wavelength shift | 20°C Heat-sink | -- | -- | 0.07 | nm/°C |
| Divergence (FW $1/e^2$) | P_{OUT} , 20°C Heat-sink | -- | 16 x 16 | 22 x 22 | ° |
| N.A. (4-sigma) | P_{OUT} , 20°C Heat-sink | -- | 0.17 | 0.22 | -- |
| Emission area | -- | -- | 0.3 x 0.3 | -- | mm ² |

Maximum Absolute Ratings

| PARAMETER | CONDITIONS |
|-----------------------|---------------|
| Forward current | 1 A |
| Reverse current | 25 μ A |
| Operating temperature | 0 to +80 °C |
| Storage temperature | -40 to +80 °C |

Ordering information

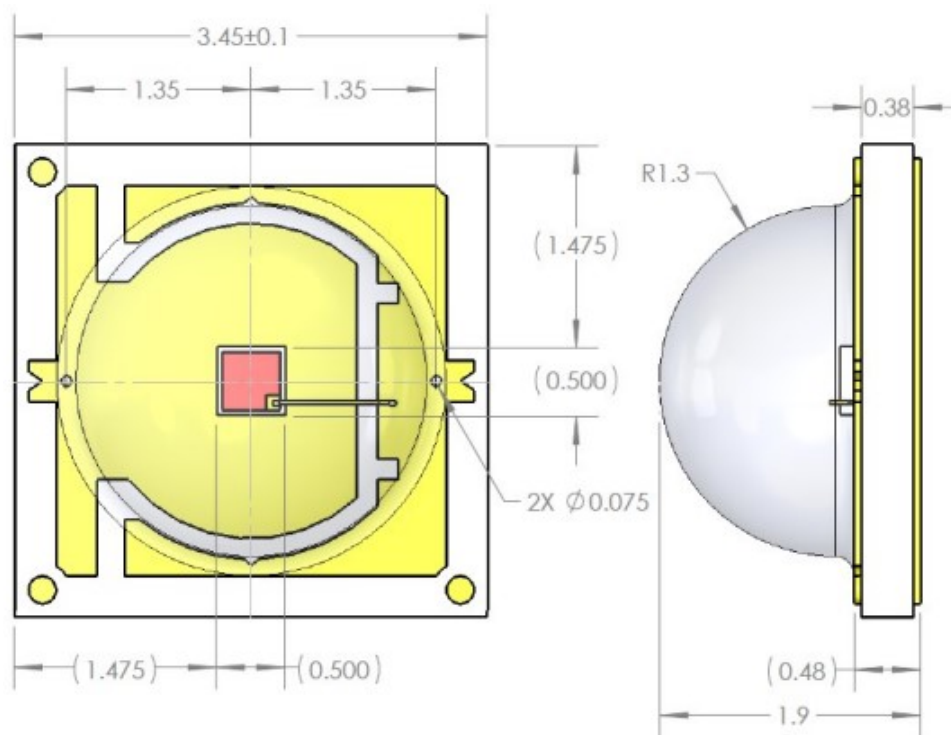
PCW – SME – 0500 – W0850

Heat Spreader Type
Wavelength (nm)

CW Output Power

Mechanical Characteristics

| PARAMETER | CONDITIONS |
|------------------------|---------------------------|
| Package width | 3.45 mm |
| Package length | 3.45 mm |
| Package height | 1.9 mm |
| Light emitting area | 0.3 x 0.3 mm ² |
| Max solder temperature | 260 °C |



NOTES:

1. SUBSTRATE: ALUMINA with Cu FILLED VIAS.
2. ANODE & CATHODE METALLIZATION: Au FOR WIREBONDING AND SOLDERING.
3. MAXIMUM ALLOWED PROCESS TEMPERATURE FOR COMPLETE COS: 260°C FOR 5 MIN.

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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.B – 8/16