

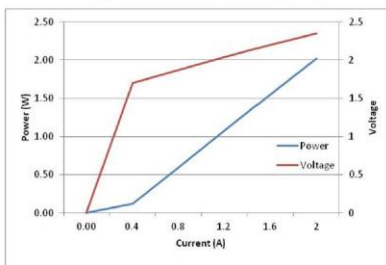
Large Divergence 850 nm VCSEL Array Module PCW-SMV-1-W0850-1-D60-45

- Vertical-Cavity Surface-Emitting Laser technology
- Very high reliability
- Wavelength stabilized (0.07 nm per °C) & narrow spectral width (< 1nm typ.)
- Engineered beam profile (Gaussian, Super-Gaussian, Top-Hat etc) with required divergence

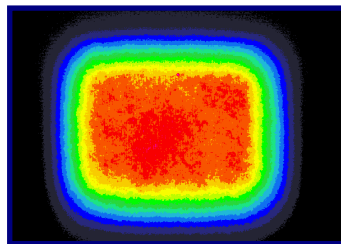
Optical & Electrical Characteristics

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
CW Output Power	I _{OP} , 20°C Heat-sink	1	1.1	--	W
Threshold current	20°C Heat-sink	--	0.27	0.32	A
Operating current	P _{OUT} , 20°C Heat-sink	--	1.25	1.4	A
Operating voltage	P _{OUT} , 20°C Heat-sink	--	2.1	2.3	V
Differential resistance	P _{OUT} , 20°C Heat-sink	--	500	600	mΩ
Slope efficiency	20°C Heat-sink	0.8	1.0	--	W/A
Conversion efficiency	P _{OUT} , 20°C Heat-sink	34	38	--	%
Center wavelength	P _{OUT} , 20°C Heat-sink	840	850	860	nm
Spectral width(FWHM)	P _{OUT} , 20°C Heat-sink	--	0.8	1	nm
Wavelength shift	20°C Heat-sink	--	0.07	0.07	nm/°C
Divergence angle (FWHM)	P _{OUT} , 20°C Heat-sink	--	60x45	--	°

Typical 1W 850nm LIV Curve w/ diffuser



Far Field Pattern



Maximum Absolute Ratings

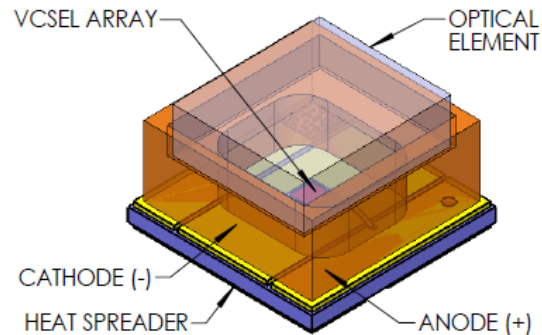
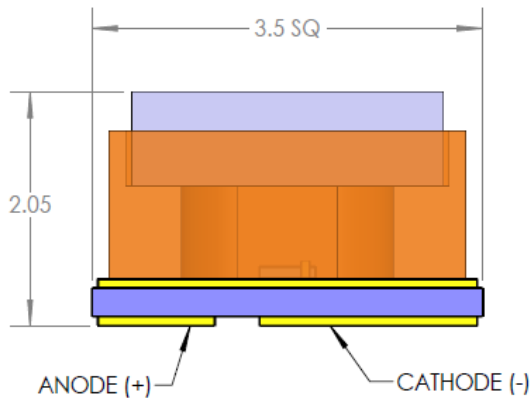
PARAMETER	CONDITIONS
Forward current	10 A
Reverse current	25 μA
Operating temperature	0 to +80°C
Storage temperature	-40 to +80°C

Ordering information

PCW – SMV – 1 – W0850 – 1 – D60-45



Drawings



Mechanical Characteristics

PARAMETER	VALUE
Package width	3.5 mm
Package length	3.5 mm
Package height	2.05 mm
Light emitting area	0.7 mm x 0.7 mm
Max solder temperature	260°C

Optical Pulse vs time (lasing emission)



Ideal pulse from a laser driver (2-4 ns)

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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 – 11/10