

# 300W CW High Power Stacks

## Part Number: MCS055C300

### 3-BARS

- High Power Stack
- Available With Up To 64 Bars Per Stack
- Available Wavelengths (790-1550nm)



### OPTICAL CHARACTERISTICS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
CW Power Output	Microchannel-cooled @ Iop, Top	300	---	---	W
Operating Current	Microchannel-cooled @ 300W, Top	---	110	---	A
Threshold Current	Microchannel-cooled @ Top	---	25	---	A
Slope Efficiency	Microchannel-cooled @ Top	---	1.2	---	W / A
Center Wavelength	Microchannel-cooled @ 300W, Top	790	808	980	nm
Wavelength Tolerance	Microchannel-cooled @ 300W, Top	---	± 3	---	nm
Spectral Width (FWHM)	Microchannel-cooled @ 300W, Top	---	3.0	---	nm
Wavelength Shift	wrt Temperature	0.23	0.25	0.27	nm / °C
Slow Axis Beam Divergence	FWHM	---	10	---	° x °
Fast Axis Beam Divergence	FWHM	---	40	---	° x °
Lensed Fast Axis Beam Divergence	FWHM	---	0.25	---	° x °
Polarization	---	---	TE	---	---

### ELECTRICAL CHARACTERISTICS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Series Resistance	Microchannel-cooled @ 300W, Top	---	9	---	m ohms
Operating Voltage	Microchannel-cooled @ 300W, Top	---	5.4	6.3	V

### COOLING REQUIREMENTS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Fluid Type	Deionized Water	---	---	---	---
pH Level	---	7.0	7.5	8.0	---
Resistivity	---	0.300	0.500	0.700	M ohms
Flow Rate	---	0.24	0.30	0.36	gpm
Inlet Pressure	---	40.0	45.0	80.0	psi
Particle Filter	---	---	---	5.0	µm

#### NOTES

(1) These specifications apply for operation at 808nm. Contact CEO for other wavelengths between 790 and 980nm.

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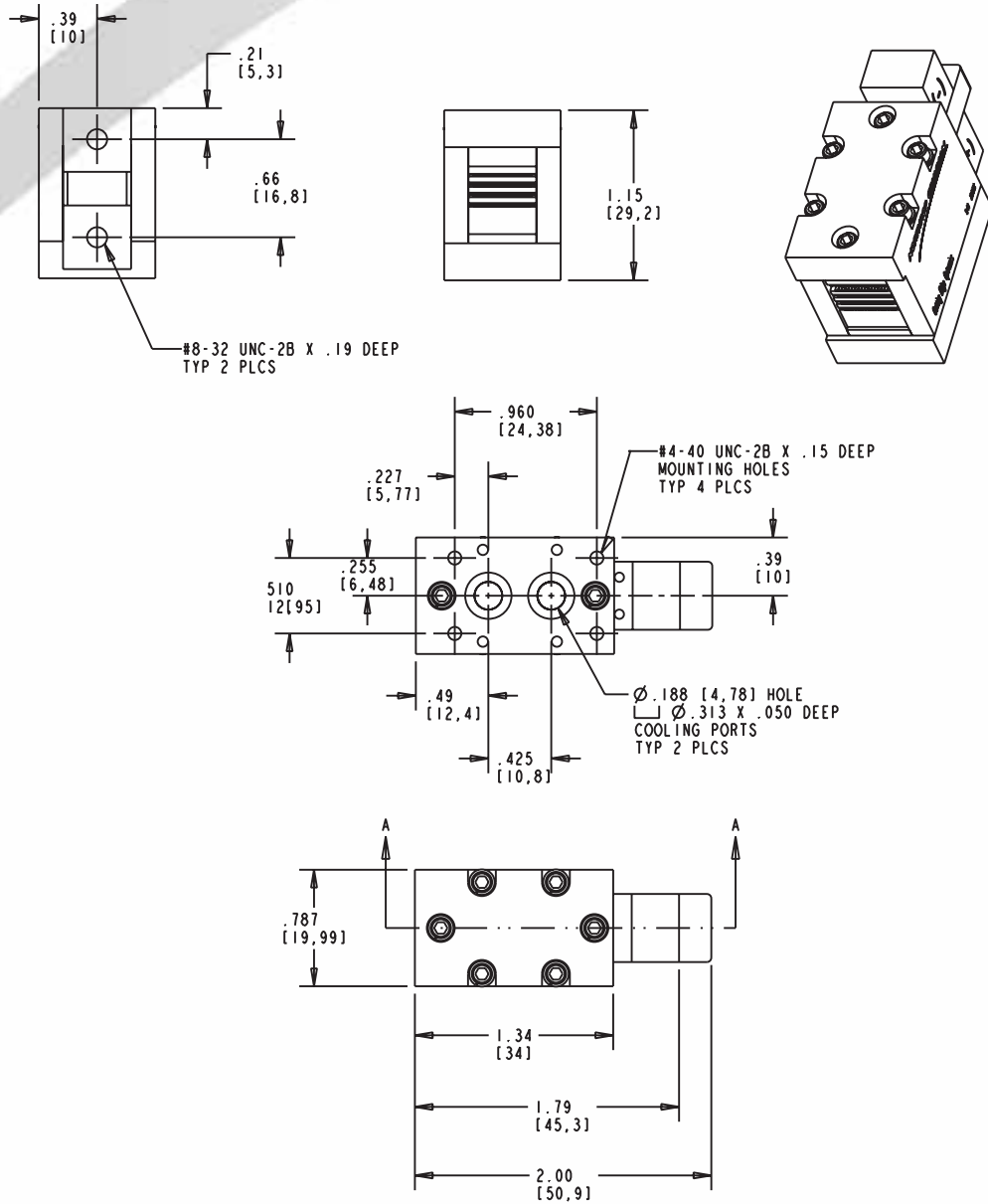
ABSOLUTE MAX RATINGS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Reverse Current	---	0	0	0	A
Reverse Voltage	---	0	0	0	V
Operating Temperature Range	Non-condensing Atmosphere	-20	25	50	°C
Storage Temperature Range	Non-condensing Atmosphere	-45	25	85	°C

NOTES

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

MECHANICAL CHARACTERISTICS



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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 eyewear must be worn at all times. Use of optical instruments with these products may increase eye hazard. Always wear proper eye protection when operating.

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**DANGER**

INVISIBLE LASER RADIATION

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

Diode laser  
5W & up, 790-1560nm  
CLASS IV

**WARNING**

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE  
REQUIRING SPECIAL HANDLING



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