

PART NUMBER: MCS055C180  
3-BAR MCC PACKAGE

### FEATURES AND BENEFITS



- Micro-Channel Cooled Arrays
- Can Be Packaged With Copper Or ICECUBED™ Ceramic Coolers
- Highest Average Power Available & Is Ideal For High Brightness Applications
- Available Wavelengths: 790-1550nm
- Multi-Wavelength Configurations Available
- Single & Multi-Dimensional MCC Stacks Are Available From 1 To 64 Bars Per Stack With Output Powers Up To 100W CW Per Bar
- MCC Arrays Can Be Lensed Upon Request, With A Typical FAC Of 0.25° (FWHM)

### OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	68A at 25°C Heat Sink	180	W
Operating Current	180W at 25°C Heat Sink	68	A
Threshold Current	25°C Heat Sink	18	A
Slope Efficiency	25°C Heat Sink	3.60	W/A
Electrical-Optical Efficiency	180W at 25°C Heat Sink	52	%
Center Wavelength	180W at 25°C Heat Sink	808	nm
Wavelength Tolerance	180W at 25°C Heat Sink	+/-3	nm
Spectral Width	180W at 25°C Heat Sink	1.8	nm
Wavelength Shift	—	0.25	nm/°C
Beam Divergence FWHM	—	38 x 7	x°
Beam Divergence FWHM (Lensed)	—	0.25 x 7	x°

### ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25°C Heat Sink	0.005	Ω
Operating Voltage	25°C Heat Sink, 180W	5.1	V

### ABSOLUTE MAXIMUM RATINGS

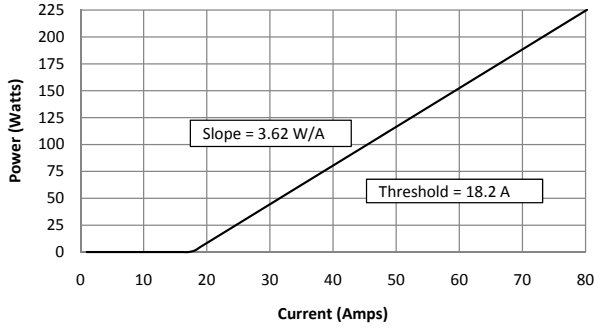
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40°C to 70°C
Storage Temperature Range	-40°C to 85°C

### NOTES

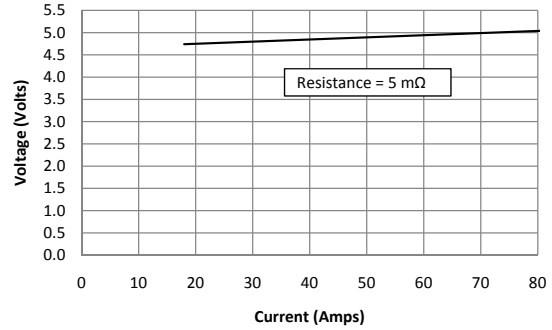
- (1) These specifications apply for operation at 808nm. Other wavelengths available upon request.
- (2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.
- (3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

OPTICAL CHARACTERISTICS (SAMPLE)

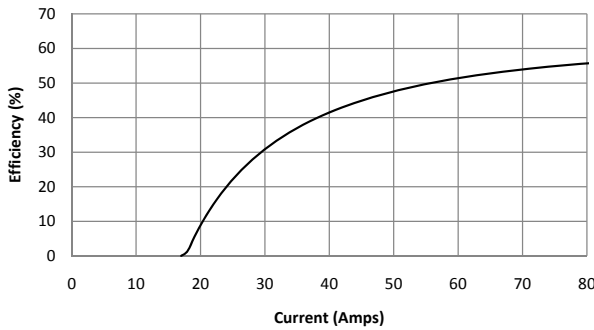
Power vs Current  
25°C



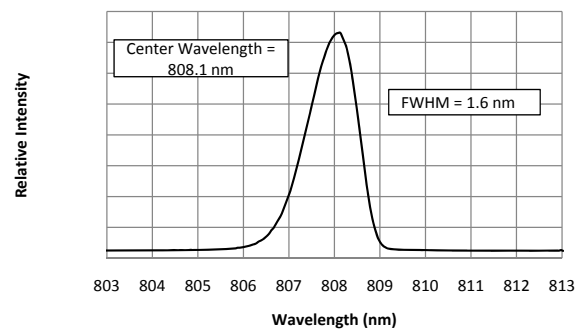
Voltage vs Current  
25°C



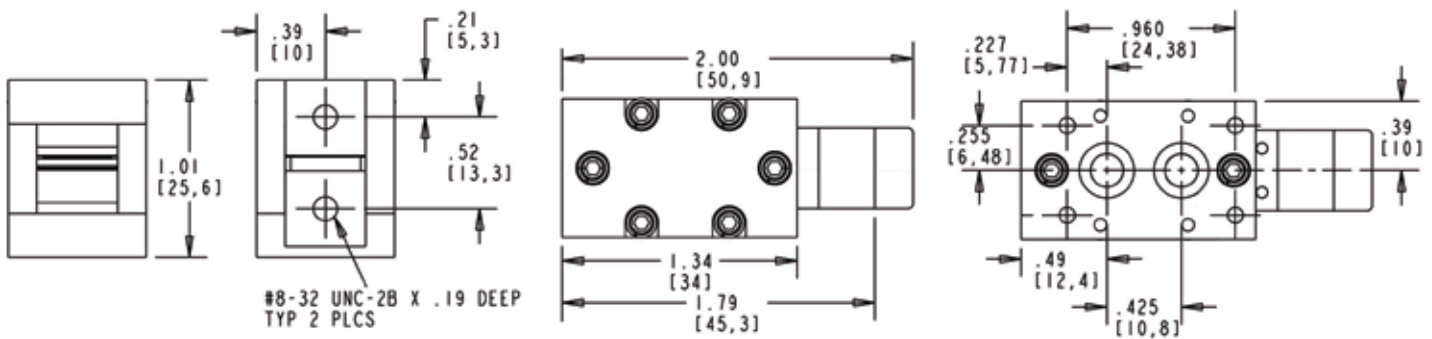
Efficiency vs Current  
25°C



Wavelength Spectrum  
180 W, 67.9 A, 25°C



MECHANICAL CHARACTERISTICS



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DANGER

INVISIBLE LASER  
RADIATION

AVOID EYE OR SKIN EXPOSURE TO DIRECT  
OR SCATTERED RADIATION.

\*  
Diode laser  
5W & up, 780-1560nm  
CLASS IV

WARNING

ELECTROSTATIC DISCHARGE  
SENSITIVE DEVICE  
REQUIRING SPECIAL HANDLING

Rev: B 5/10      80% WAVELENGTH

PART NUMBER: MCS055C240  
3-BAR MCC PACKAGE

### FEATURES AND BENEFITS



- Micro-Channel Cooled Arrays
- Can Be Packaged With Copper Or ICECUBED™ Ceramic Coolers
- Highest Average Power Available & Is Ideal For High Brightness Applications
- Available Wavelengths: 790-1550nm
- Multi-Wavelength Configurations Available
- Single & Multi-Dimensional MCC Stacks Are Available From 1 To 64 Bars Per Stack With Output Powers Up To 100W CW Per Bar
- MCC Arrays Can Be Lensed Upon Request, With A Typical FAC Of 0.25° (FWHM)

### OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	85A at 25°C Heat Sink	240	W
Operating Current	240W at 25°C Heat Sink	85	A
Threshold Current	25°C Heat Sink	18	A
Slope Efficiency	25°C Heat Sink	3.60	W/A
Electrical-Optical Efficiency	240W at 25°C Heat Sink	55	%
Center Wavelength	240W at 25°C Heat Sink	808	nm
Wavelength Tolerance	240W at 25°C Heat Sink	+/-3	nm
Spectral Width	240W at 25°C Heat Sink	1.8	nm
Wavelength Shift	—	0.25	nm/°C
Beam Divergence FWHM	—	38 x 7	x°
Beam Divergence FWHM (Lensed)	—	0.25 x 7	x°

### ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25°C Heat Sink	0.005	Ω
Operating Voltage	25°C Heat Sink, 240W	5.1	V

### ABSOLUTE MAXIMUM RATINGS

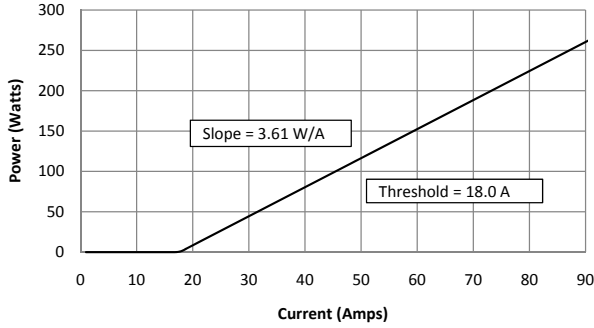
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40°C to 70°C
Storage Temperature Range	-40°C to 85°C

### NOTES

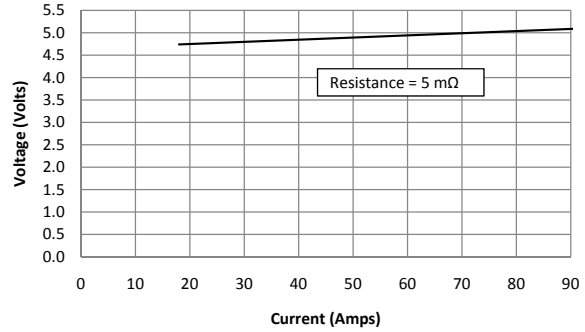
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OPTICAL CHARACTERISTICS (SAMPLE)

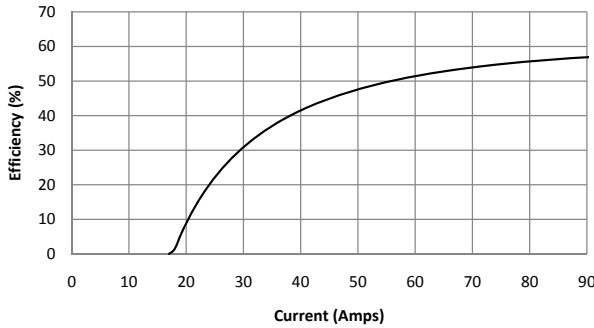
Power vs Current  
25°C



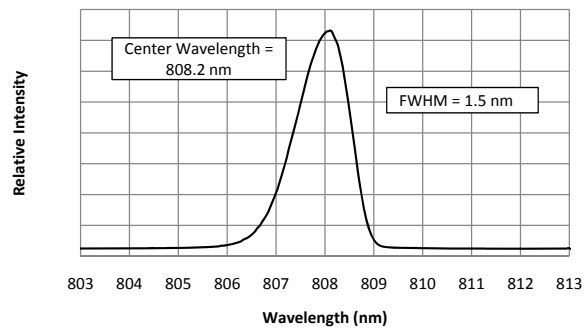
Voltage vs Current  
25°C



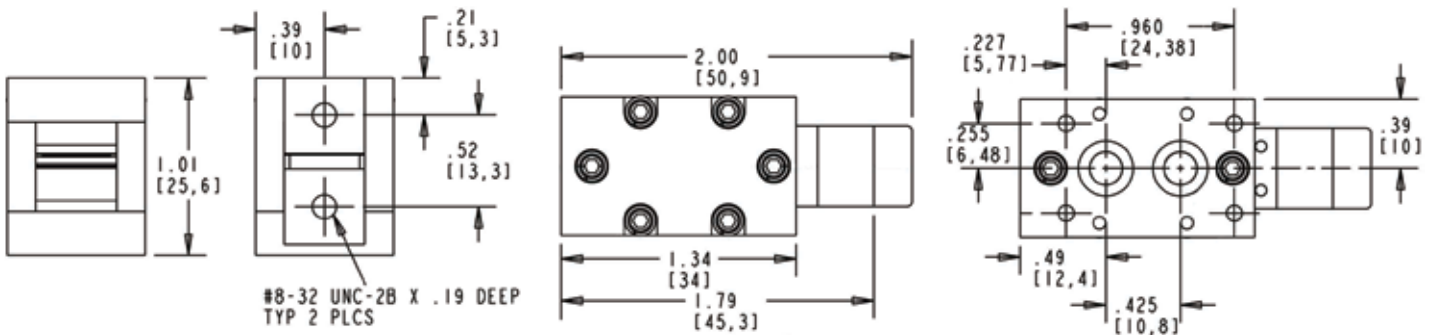
Efficiency vs Current  
25°C



Wavelength Spectrum  
240 W, 84.5 A, 25°C



MECHANICAL CHARACTERISTICS



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INVISIBLE LASER RADIATION

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

\* Diode laser  
5W & up, 780-1560nm  
CLASS IV

WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE  
REQUIRING SPECIAL HANDLING

Rev: A 5/10      80% WAVELENGTH

PART NUMBER: MCS055C300  
3-BAR MCC PACKAGE

### FEATURES AND BENEFITS



- Micro-Channel Cooled Arrays
- Highest Average Power Available
- Ideal For High Brightness Applications
- Available Wavelengths: 790-1550nm
- Multi-Wavelength Configurations Available
- Single & Multi-Dimensional MCC Stacks Are Available From 1 To 64 Bars Per Stack With Output Powers Up To 100W CW Per Bar
- MCC Arrays Can Be Lensed Upon Request, With A Typical FAC Of 0.25° (FWHM)

### OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	101A at 25°C Heat Sink	300	W
Operating Current	300W at 25°C Heat Sink	101	A
Threshold Current	25°C Heat Sink	18	A
Slope Efficiency	25°C Heat Sink	3.60	W/A
Electrical-Optical Efficiency	300W at 25°C Heat Sink	57	%
Center Wavelength	300W at 25°C Heat Sink	808	nm
Wavelength Tolerance	300W at 25°C Heat Sink	+/-3	nm
Spectral Width	300W at 25°C Heat Sink	1.8	nm
Wavelength Shift	—	0.25	nm/°C
Beam Divergence FWHM	—	38 x 7	x°
Beam Divergence FWHM (Lensed)	—	0.25 x 7	x°

### ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25°C Heat Sink	0.005	Ω
Operating Voltage	25°C Heat Sink, 300W	5.4	V

### ABSOLUTE MAXIMUM RATINGS

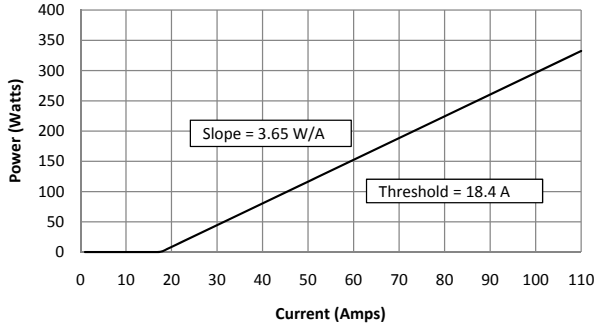
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40°C to 70°C
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### NOTES

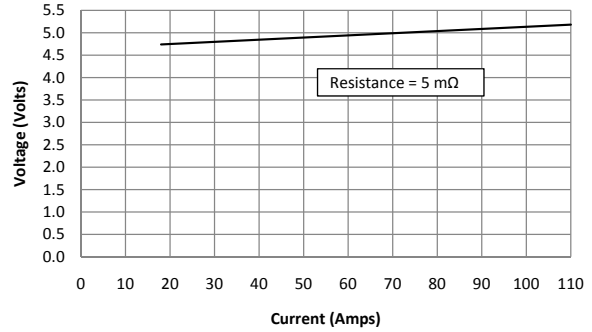
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OPTICAL CHARACTERISTICS (SAMPLE)

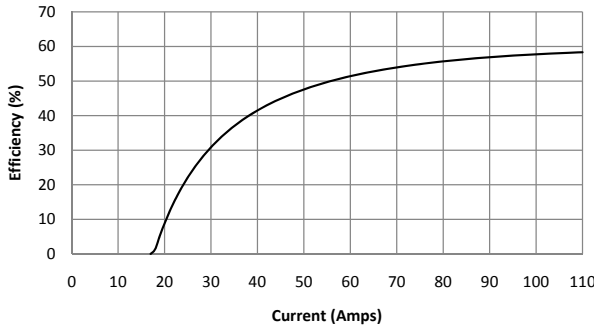
Power vs Current  
25°C



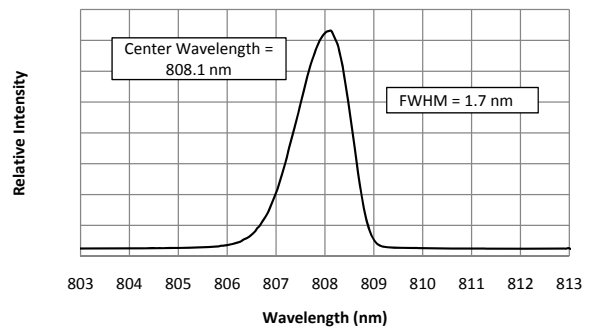
Voltage vs Current  
25°C



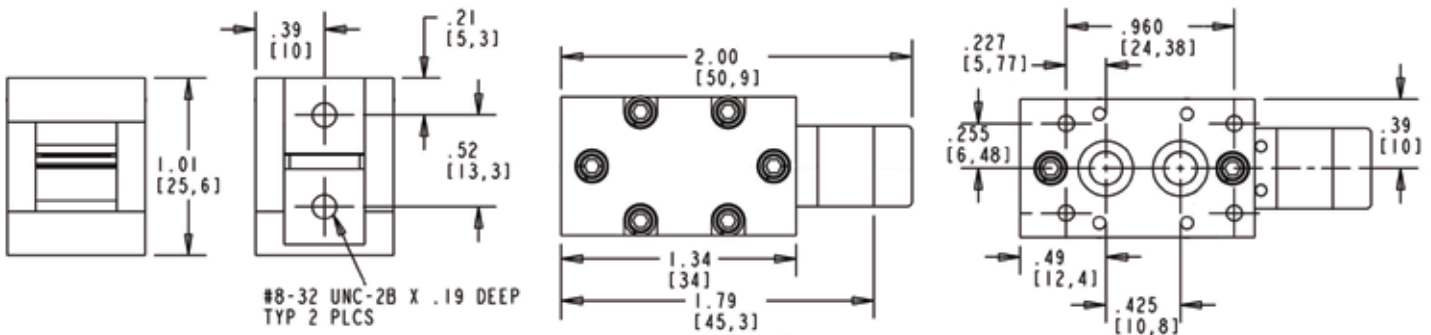
Efficiency vs Current  
25°C



Wavelength Spectrum  
300 W, 101 A, 25°C



MECHANICAL CHARACTERISTICS



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CLASS IV

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Rev. B 5/10 NVC 000000000