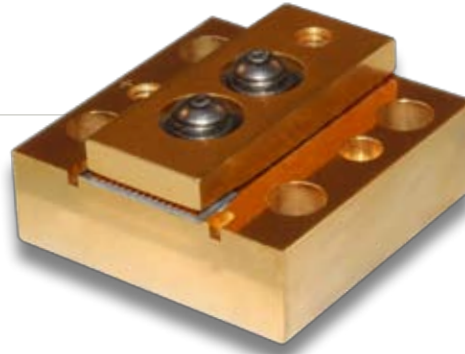


PART NUMBER: ARR97C020
DIRECTLY BONDED Cs PACKAGE

FEATURES AND BENEFITS



- Industry Standard
- Conductively Cooled
- Low Smile Package Design
- Diamond-Turned Heat Exchanger
- Available Wavelengths: 790-1550nm

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	25A at 25°C Heat Sink	20	W
Operating Current	20W at 25°C Heat Sink	25	A
Threshold Current	25°C Heat Sink	8	A
Slope Efficiency	25°C Heat Sink	1.15	W/A
Electrical-Optical Efficiency	20W at 25°C Heat Sink	47	%
Center Wavelength	20W at 25°C Heat Sink	808	nm
Wavelength Tolerance	20W at 25°C Heat Sink	+/-3	nm
Spectral Width	20W at 25°C Heat Sink	1.8	nm
Wavelength Shift	—	0.25	nm/°C
Beam Divergence FWHM	—	38x7	x°
Beam Divergence FWHM (Lensed)	—	1x7	x°

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25°C Heat Sink	0.004	Ω
Operating Voltage	25°C Heat Sink, 20W	1.7	V

ABSOLUTE MAXIMUM RATINGS

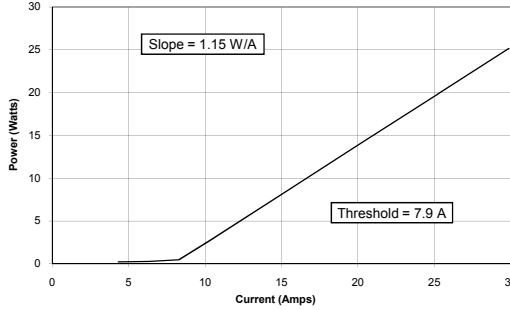
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40°C to 70°C
Storage Temperature Range	-40°C to 85°C

NOTES

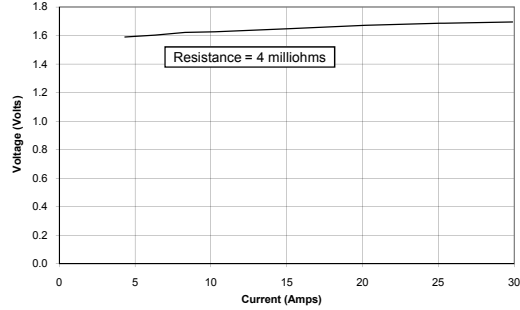
- (1) These specifications apply for operation at 808nm. Other wavelengths available upon request.
- (2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.
- (3) Fast axis and slow axis lensing options are available for most NG-CEO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

OPTICAL CHARACTERISTICS (SAMPLE)

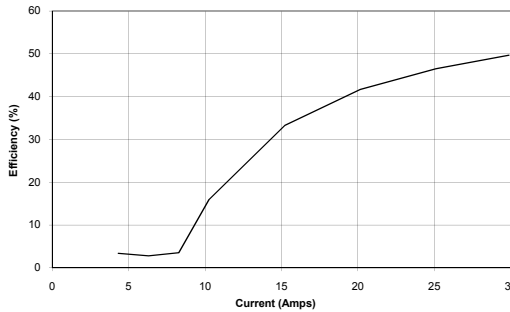
Power vs Current
25°C



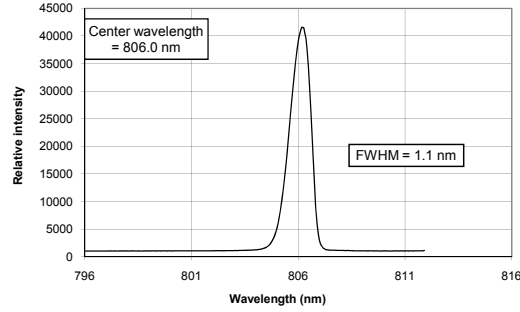
Voltage vs Current
25°C



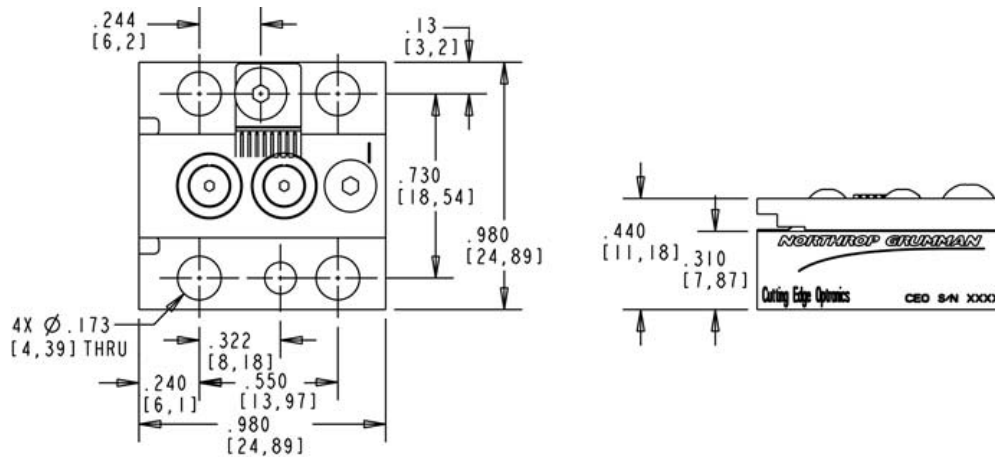
Efficiency vs Current
25°C



Wavelength Spectrum
20.0 W, 25.4 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

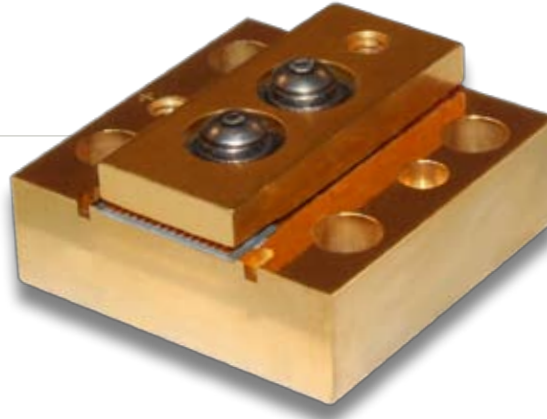
WARNING

ELECTROSTATIC DISCHARGE
SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV. A 10/09 HW 9001-1000 Rev.0001

PART NUMBER: ARR97C040 - 1
DIRECTLY BONDED Cs PACKAGE

FEATURES AND BENEFITS



- Industry Standard
- Conductively Cooled
- Low Smile Package Design
- Diamond-Turned Heat Exchanger
- Available Wavelengths: 790-1550nm
- Data Below Based On 50-Emitter Bars

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	47A at 25°C Heat Sink	40	W
Operating Current	40W at 25°C Heat Sink	47	A
Threshold Current	25°C Heat Sink	12	A
Slope Efficiency	25°C Heat Sink	1.15	W/A
Electrical-Optical Efficiency	40W at 25°C Heat Sink	51	%
Center Wavelength	40W at 25°C Heat Sink	808	nm
Wavelength Tolerance	40W at 25°C Heat Sink	+/-3	nm
Spectral Width	40W at 25°C Heat Sink	1.6	nm
Wavelength Shift	—	0.25	nm/°C
Beam Divergence FWHM	—	38x7	x°
Beam Divergence FWHM (Lensed)	—	1x7	x°

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25°C Heat Sink	0.002	Ω
Operating Voltage	25°C Heat Sink, 40W	1.7	V

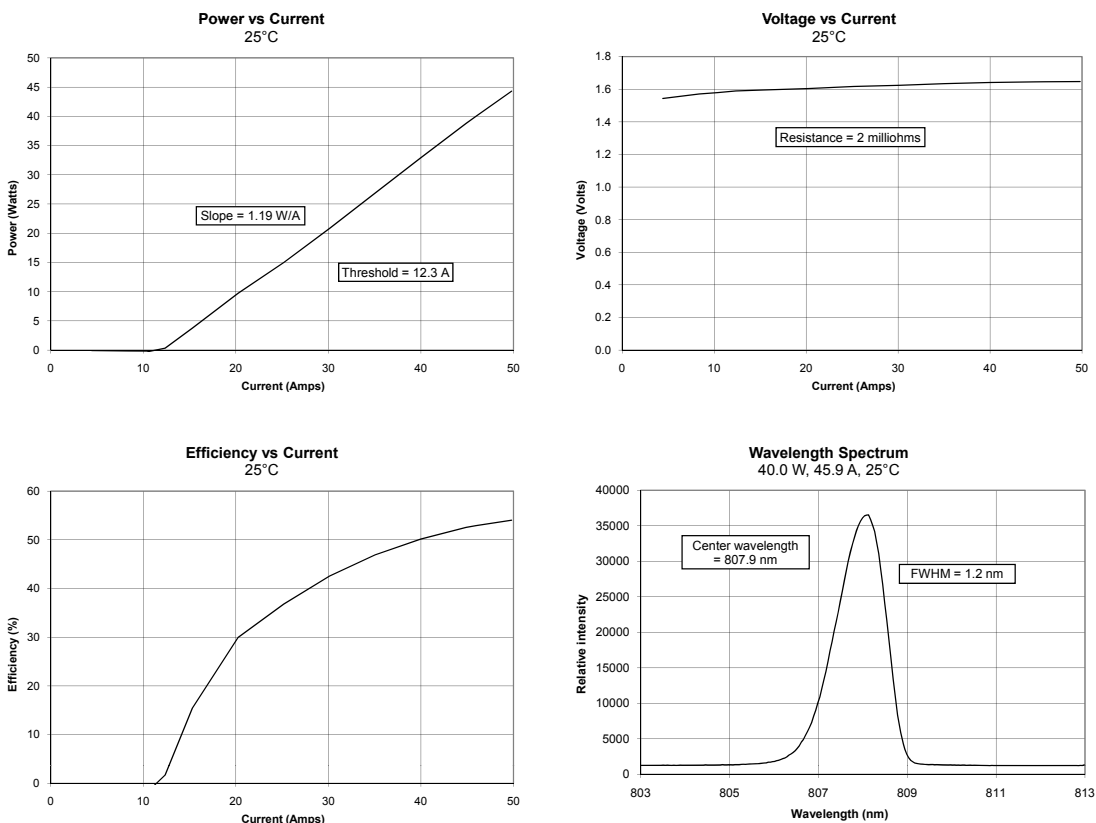
ABSOLUTE MAXIMUM RATINGS

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

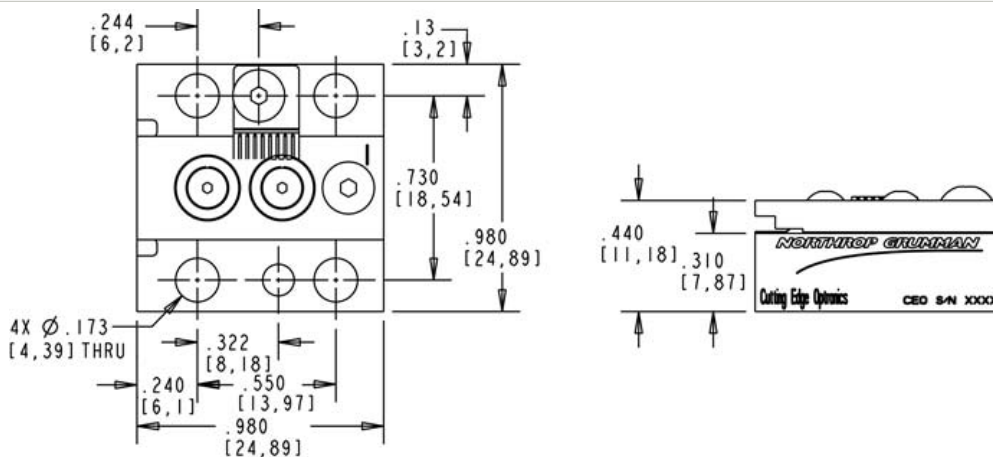
NOTES

- (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)



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

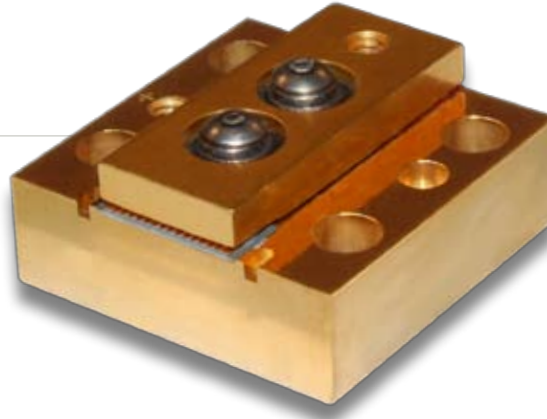
WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV: A 10/09

PART NUMBER: ARR97C040 - 2
DIRECTLY BONDED Cs PACKAGE

FEATURES AND BENEFITS



- Industry Standard
- Conductively Cooled
- Low Smile Package Design
- Diamond-Turned Heat Exchanger
- Available Wavelengths: 790-1550nm
- Data Below Based On 19-Emitter Bars

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	43A at 25°C Heat Sink	40	W
Operating Current	40W at 25°C Heat Sink	43	A
Threshold Current	25°C Heat Sink	7	A
Slope Efficiency	25°C Heat Sink	1.1	W/A
Electrical-Optical Efficiency	40W at 25°C Heat Sink	49	%
Center Wavelength	40W at 25°C Heat Sink	808	nm
Wavelength Tolerance	40W at 25°C Heat Sink	+/-3	nm
Spectral Width	40W at 25°C Heat Sink	3.0	nm
Wavelength Shift	—	0.25	nm/°C
Beam Divergence FWHM	—	38x7	x°
Beam Divergence FWHM (Lensed)	—	1x7	x°

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25°C Heat Sink	0.006	Ω
Operating Voltage	25°C Heat Sink, 40W	1.9	V

ABSOLUTE MAXIMUM RATINGS

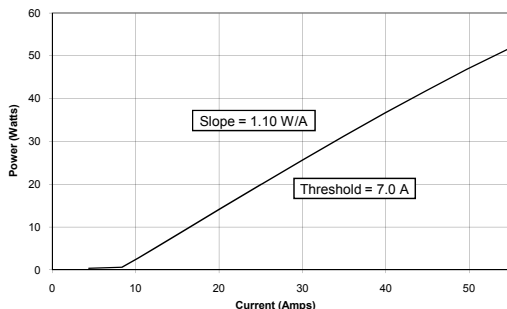
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40°C to 70°C
Storage Temperature Range	-40°C to 85°C

NOTES

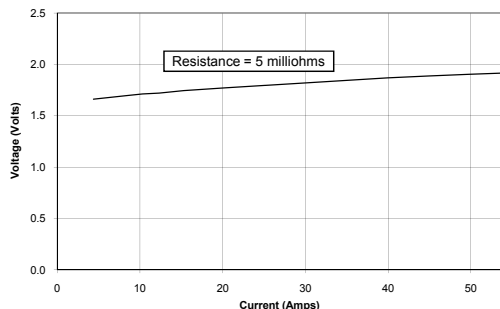
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> **OPTICAL CHARACTERISTICS (SAMPLE)**

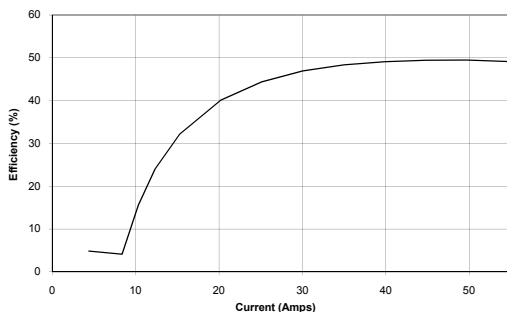
Power vs Current
25°C



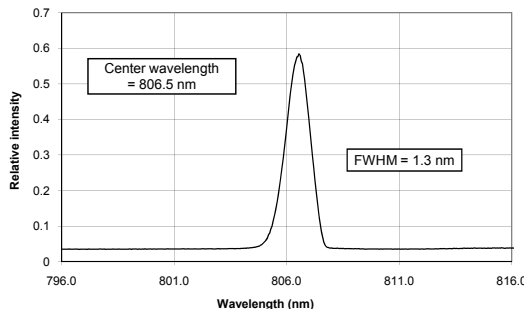
Voltage vs Current
25°C



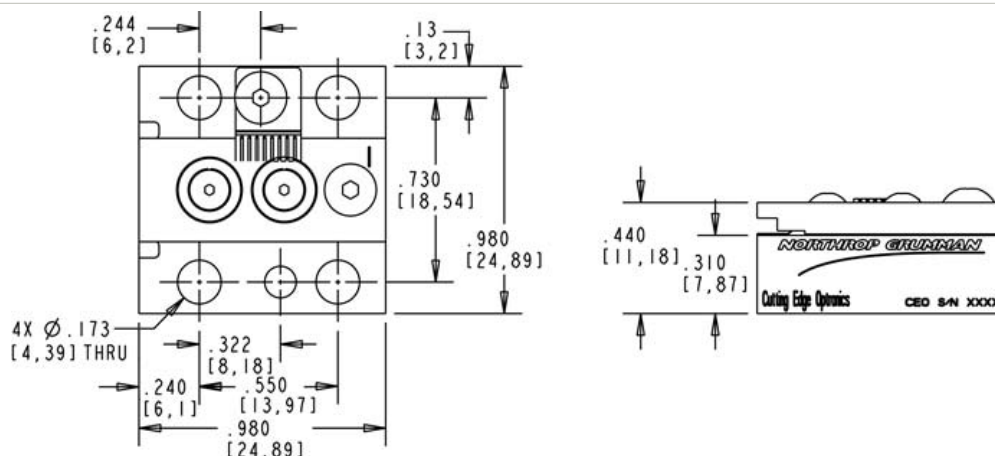
Efficiency vs Current
25°C



Wavelength Spectrum
40 W, 43.4 A, 25°C



> **MECHANICAL CHARACTERISTICS**



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DANGER

INVISIBLE LASER RADIATION
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* Diode laser
5W & up, 780-1560nm
CLASS IV

WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV: A 10/09 REV: 0011-1000 (Rev.0001)