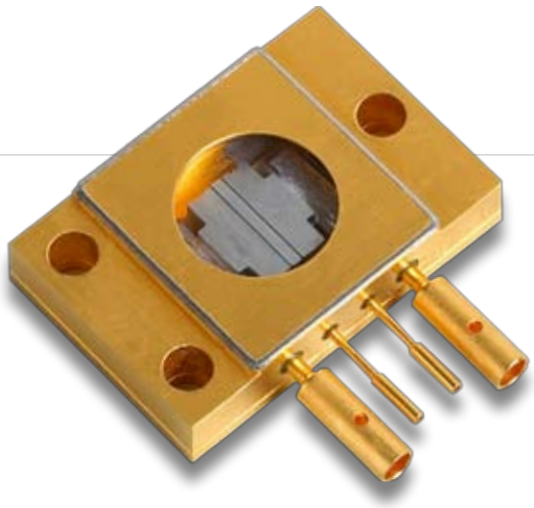
HS PACKAGE

LASER DIODE ARRAY

32W CW

NORTHROP GRUMMAN



PART NUMBER: ARR94C032

2-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Conductively Cooled
- Environmentally Sealed
- Ideal for Illumination Applications
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Also Avaiable With Up To 40W Maximum Output Power

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	22A at 25˚C Heat Sink	32	W
Operating Current	32W at 25˚C Heat Sink	22	A
Threshold Current	25˚C Heat Sink	8	A
Slope Efficiency	25°C Heat Sink	2.30	W/A
Electrical-Optical Efficiency	32W at 25˚C Heat Sink	43	%
Center Wavelength	32W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	32W at 25˚C Heat Sink	+/-3	nm
Spectral Width	32W 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, 32W	3.4	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.

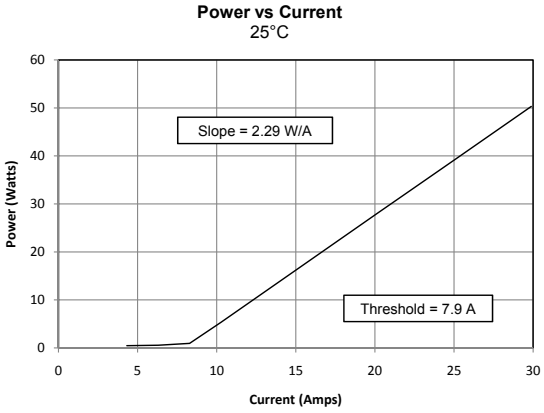
(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

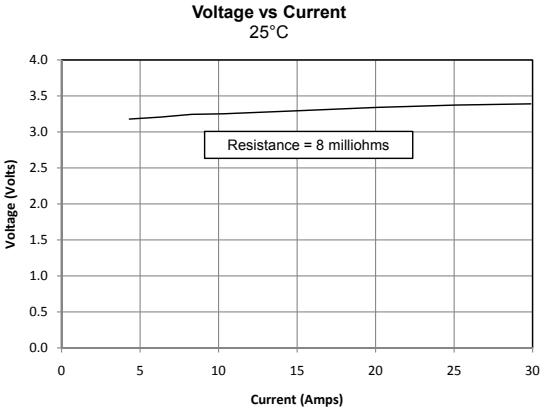
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

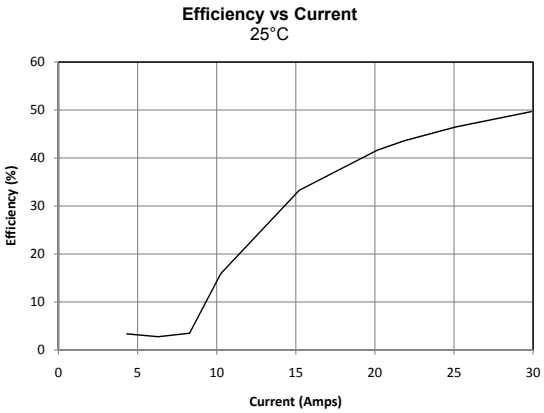
32W CW

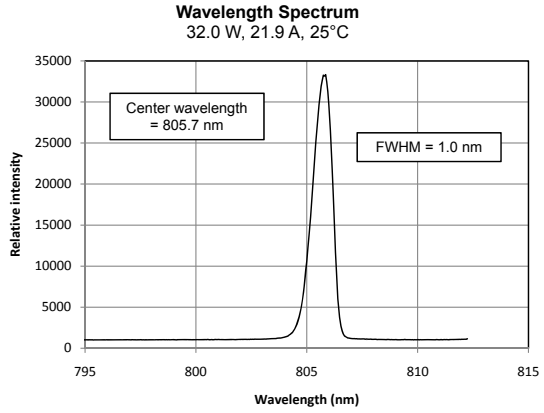
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)

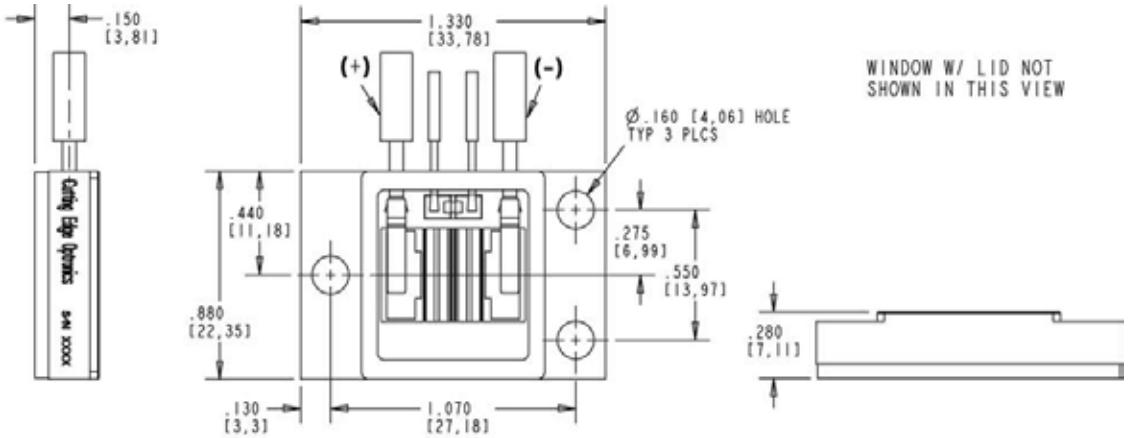








MECHANICAL CHARACTERISTICS

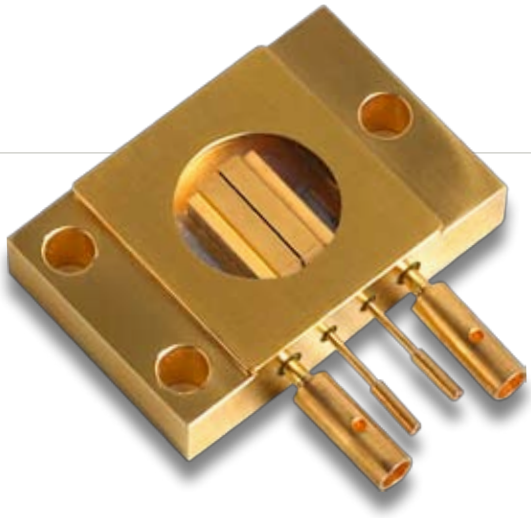


HS PACKAGE

LASER DIODE ARRAY

40W CW

NORTHROP GRUMMAN



PART NUMBER: ARR94C040

1-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Illumination Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- HS Package Available With Up To 40W Maximum Output Power
- Conductively Cooled & Environmentally Sealed
- Available Wavelengths: 790-1550nm

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.

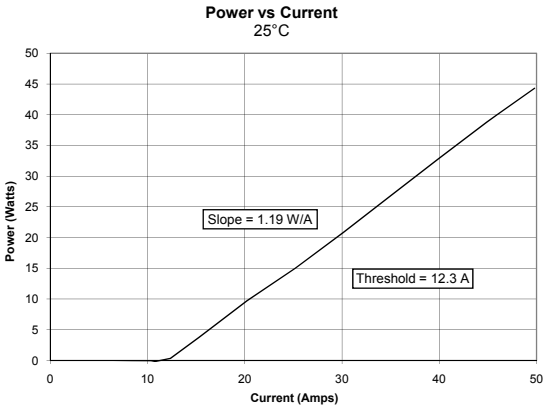
(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

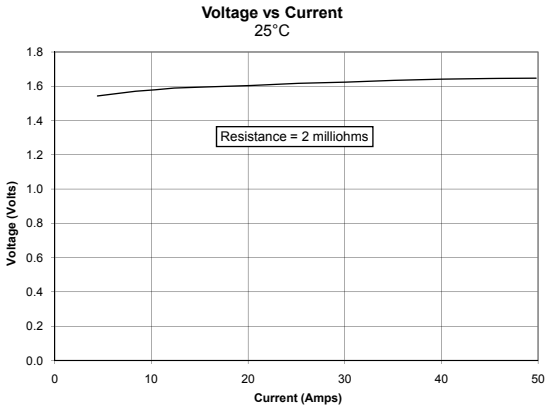
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

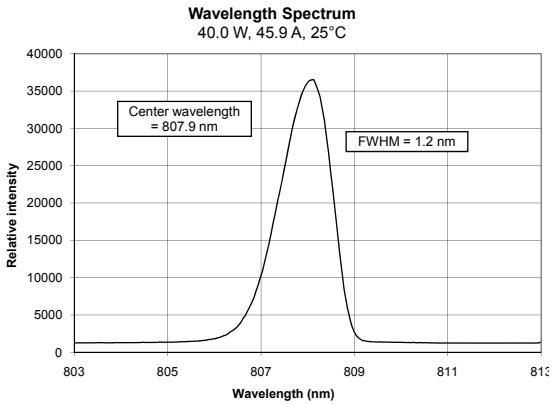
40W CW

NORTHROP GRUMMAN

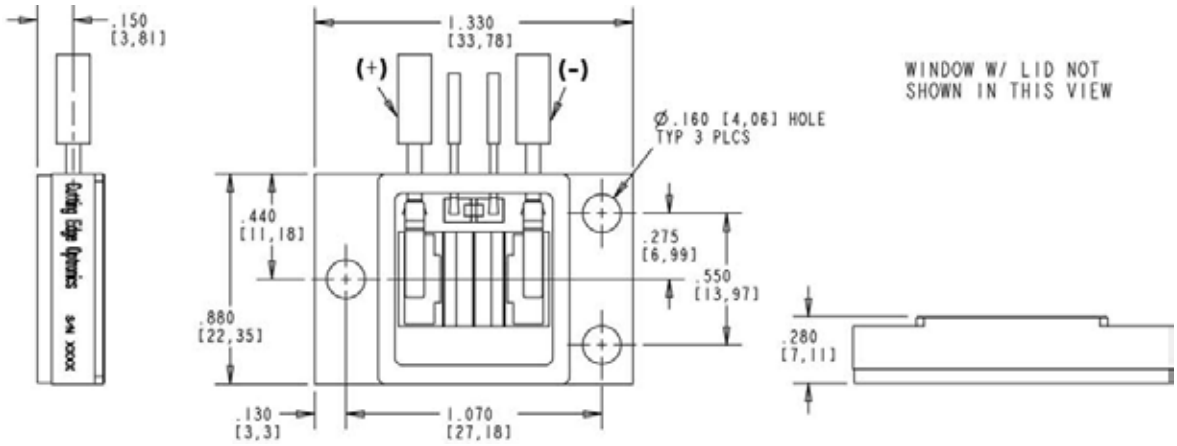
OPTICAL CHARACTERISTICS (SAMPLE)







MECHANICAL CHARACTERISTICS

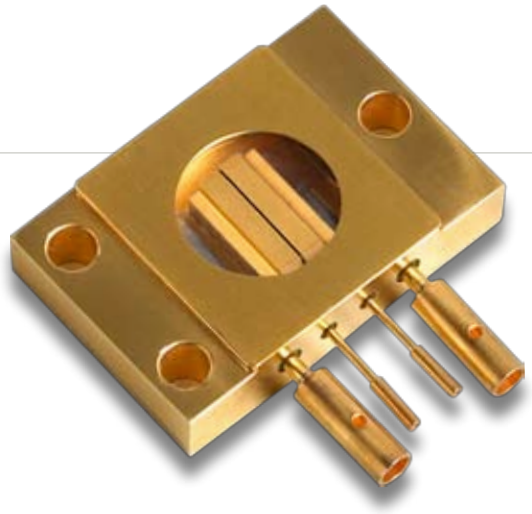


HS PACKAGE

LASER DIODE ARRAY

100W QCW

NORTHROP GRUMMAN



PART NUMBER: ARR94P100

1-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Also Available With Up To 8 Bars For A Maximum Output Power Of 1.6 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25˚C Heat Sink	100	W
Operating Current	100W at 25˚C Heat Sink	95	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	1.25	W/A
Electrical-Optical Efficiency	100W at 25˚C Heat Sink	58	%
Center Wavelength	100W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	100W at 25˚C Heat Sink	+/-3	nm
Spectral Width	100W at 25˚C Heat Sink	2.0	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	0.002	Ω
Operating Voltage	25˚C Heat Sink, 100W	1.8	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.

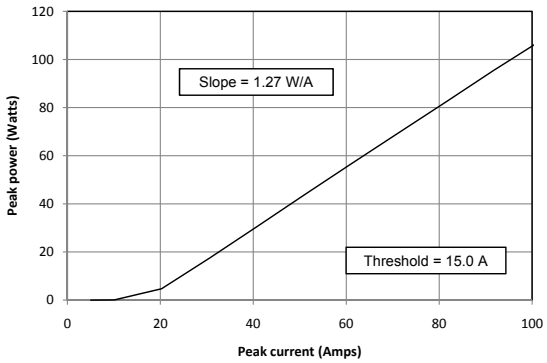
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

100W QCW

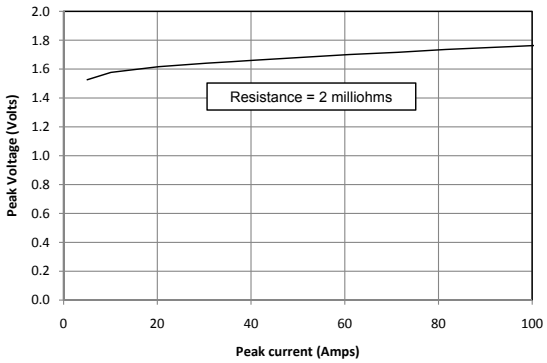
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)

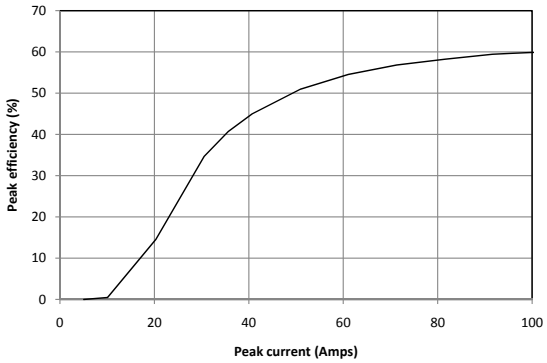
Power vs Current
9 Hz, 150 µsec, 25°C



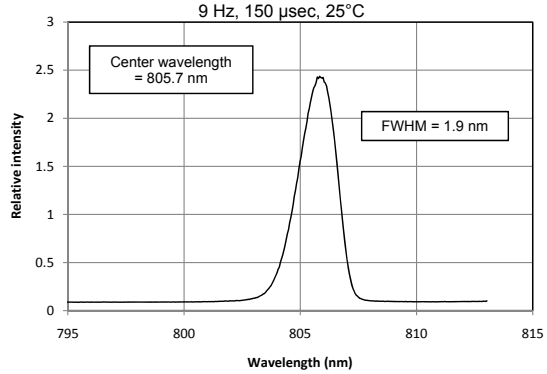
Voltage vs Current
9 Hz, 150 µsec, 25°C



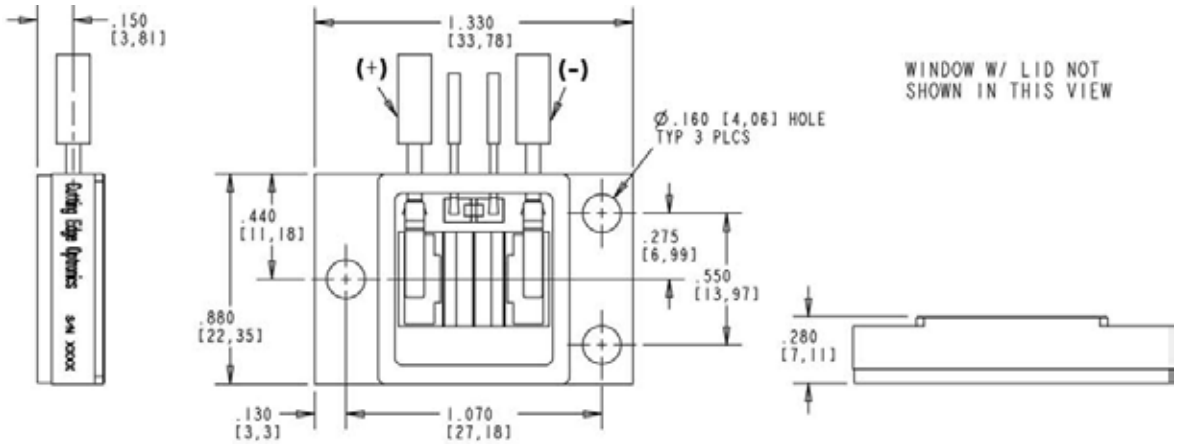
Efficiency vs Current
9 Hz, 150 µsec, 25°C



Wavelength Spectrum
100 W, 95.5 A,
9 Hz, 150 µsec, 25°C



MECHANICAL CHARACTERISTICS

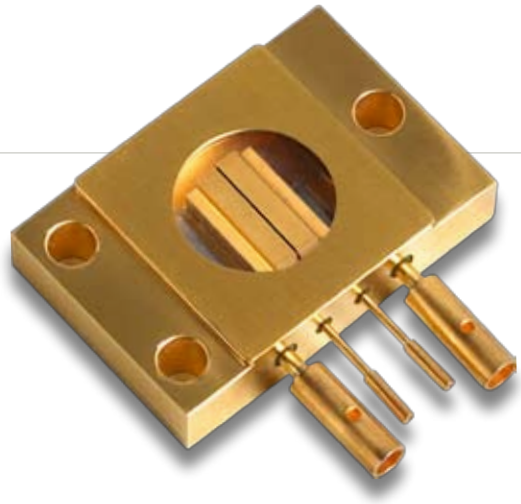


HS PACKAGE

LASER DIODE ARRAY

200W QCW

NORTHROP GRUMMAN



PART NUMBER: ARR94P200

1-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Also Available With Up To 8 Bars For A Maximum Output Power Of 1.6 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25˚C Heat Sink	200	W
Operating Current	200W at 25˚C Heat Sink	175	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	1.25	W/A
Electrical-Optical Efficiency	200W at 25˚C Heat Sink	57	%
Center Wavelength	200W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	200W at 25˚C Heat Sink	+/-3	nm
Spectral Width	200W at 25˚C Heat Sink	2.5	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, 200W	2.0	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.

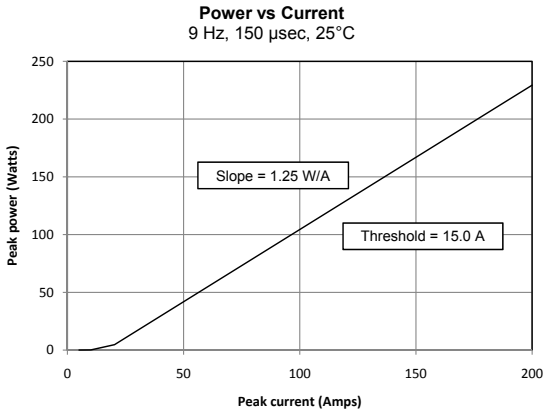
(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

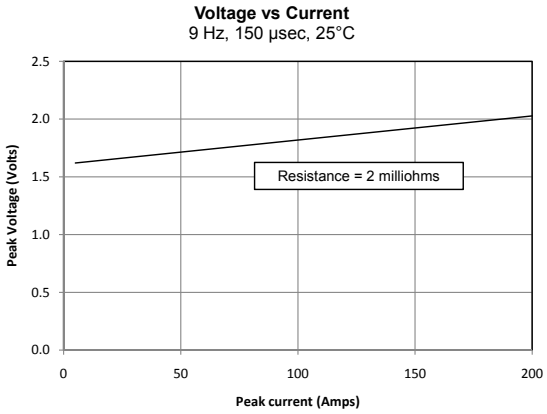
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

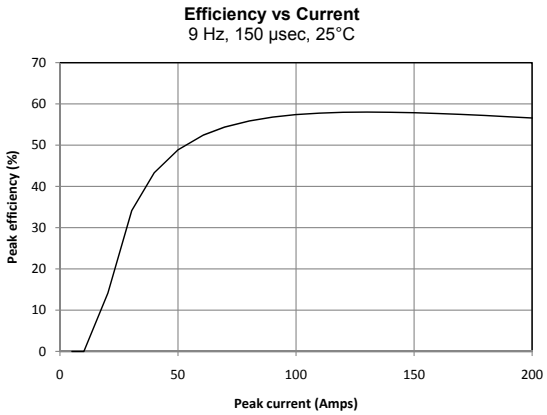
200W QCW

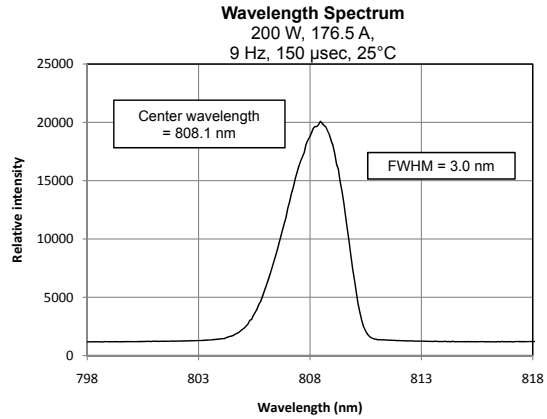
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)

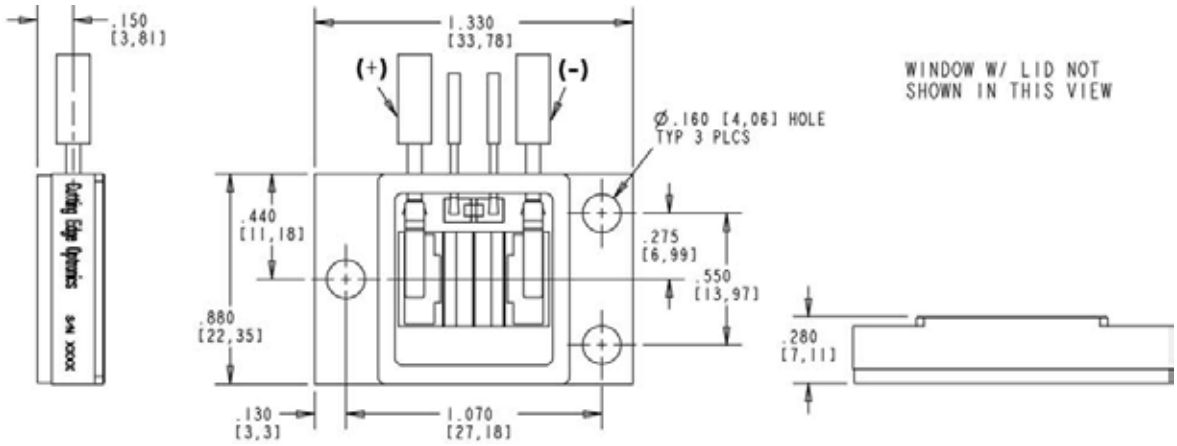








MECHANICAL CHARACTERISTICS

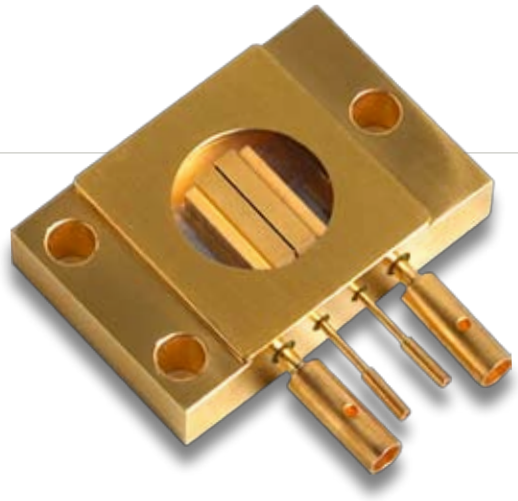


HS PACKAGE

LASER DIODE ARRAY

400W QCW

NORTHROP GRUMMAN



PART NUMBER: ARR94P400

4-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Also Available With Up To 8 Bars For A Maximum Output Power Of 1.6 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25˚C Heat Sink	400	W
Operating Current	400W at 25˚C Heat Sink	95	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	5.00	W/A
Electrical-Optical Efficiency	400W at 25˚C Heat Sink	58	%
Center Wavelength	400W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	400W at 25˚C Heat Sink	+/-3	nm
Spectral Width	400W at 25˚C Heat Sink	2.0	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	0.008	Ω
Operating Voltage	25˚C Heat Sink, 400W	7.2	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.

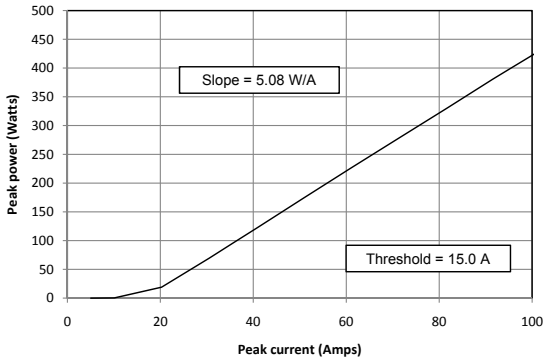
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

400W QCW

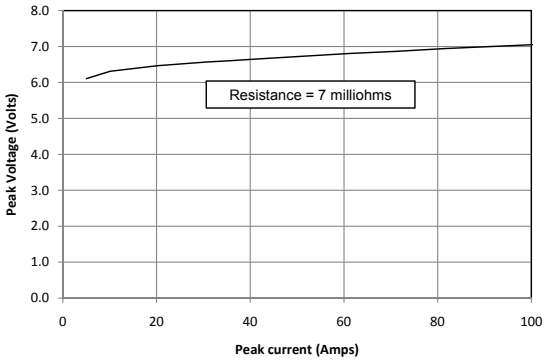
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)

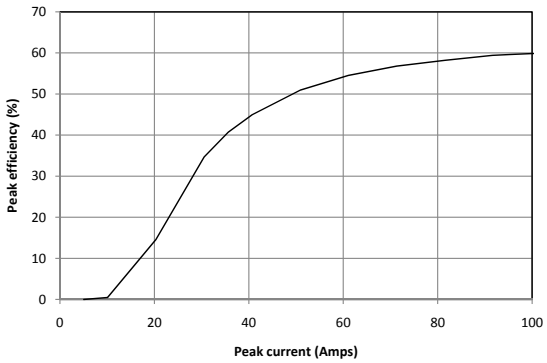
Power vs Current
9 Hz, 150 µsec, 25°C



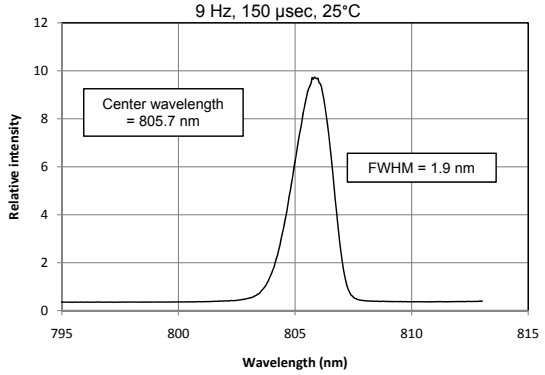
Voltage vs Current
9 Hz, 150 µsec, 25°C



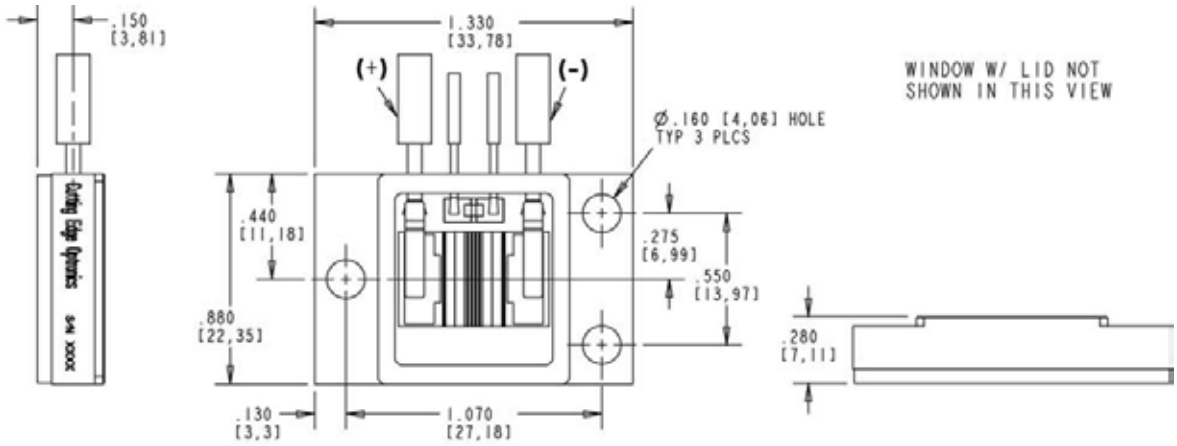
Efficiency vs Current
9 Hz, 150 µsec, 25°C



Wavelength Spectrum
400 W, 95.5 A,
9 Hz, 150 µsec, 25°C



MECHANICAL CHARACTERISTICS

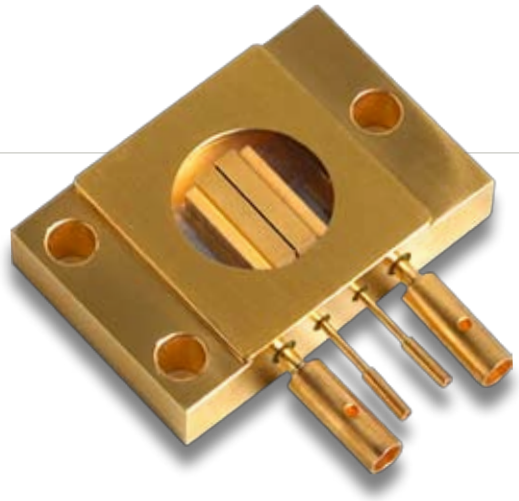


HS PACKAGE

LASER DIODE ARRAY

800W QCW

NORTHROP GRUMMAN



PART NUMBER: ARR94P800

4-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Also Available With Up To 8 Bars For A Maximum Output Power Of 1.6 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25˚C Heat Sink	800	W
Operating Current	800W at 25˚C Heat Sink	175	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	5.00	W/A
Electrical-Optical Efficiency	800W at 25˚C Heat Sink	57	%
Center Wavelength	800W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	800W at 25˚C Heat Sink	+/-3	nm
Spectral Width	800W at 25˚C Heat Sink	2.5	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	0.008	Ω
Operating Voltage	25˚C Heat Sink, 800W	8.0	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.

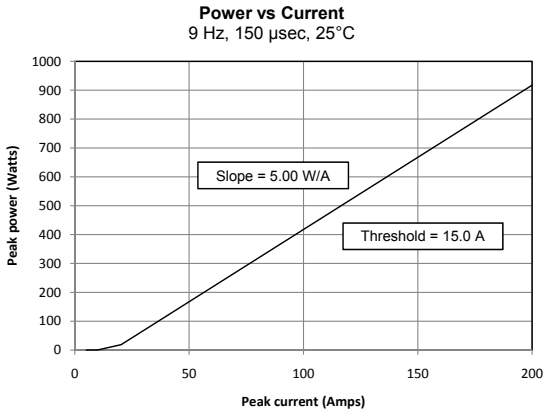
(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

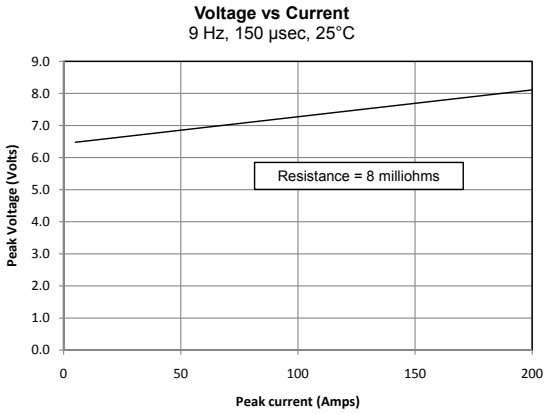
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

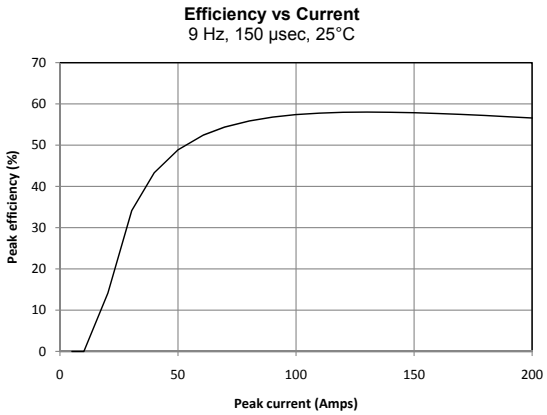
800W QCW

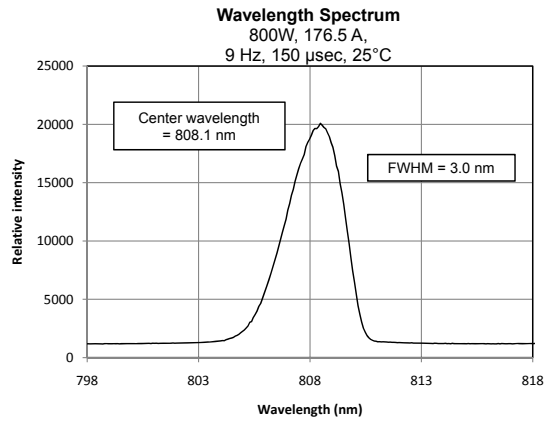
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)

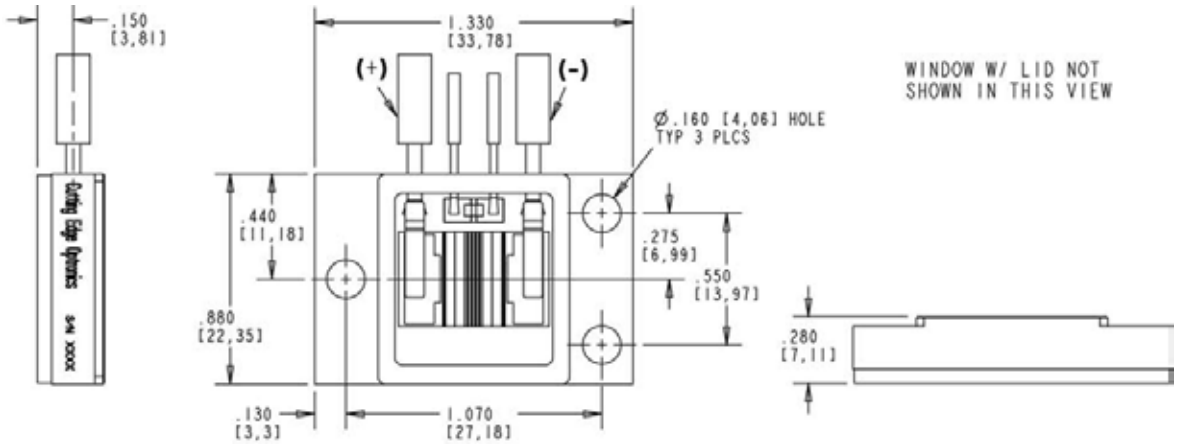








MECHANICAL CHARACTERISTICS

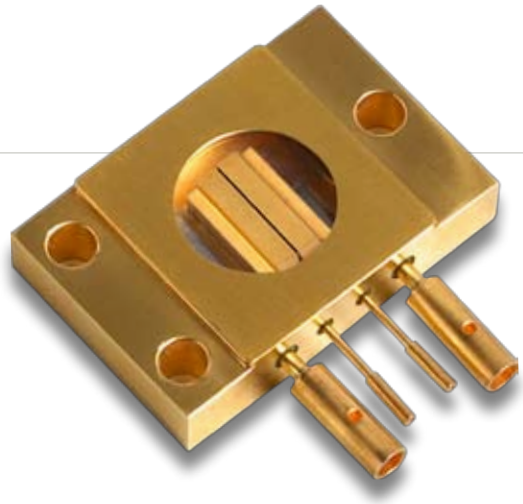


HS PACKAGE

LASER DIODE ARRAY

1200W QCW

NORTHROP GRUMMAN



PART NUMBER: ARR94P1200

6-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Also Available With Up To 8 Bars For A Maximum Output Power Of 1.6 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25˚C Heat Sink	1200	W
Operating Current	1200W at 25˚C Heat Sink	175	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	7.50	W/A
Electrical-Optical Efficiency	1200W at 25˚C Heat Sink	57	%
Center Wavelength	1200W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	1200W at 25˚C Heat Sink	+/-3	nm
Spectral Width	1200W at 25˚C Heat Sink	2.5	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	0.012	Ω
Operating Voltage	25˚C Heat Sink, 1200W	12.0	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.

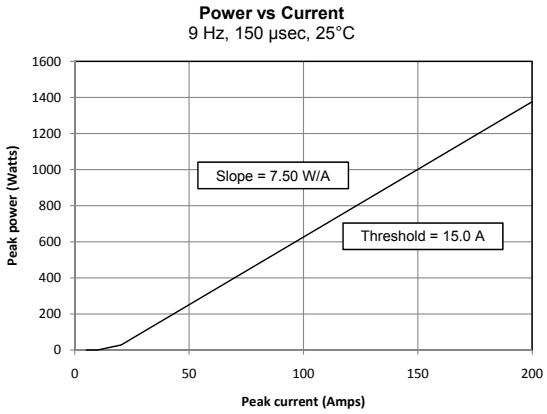
(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

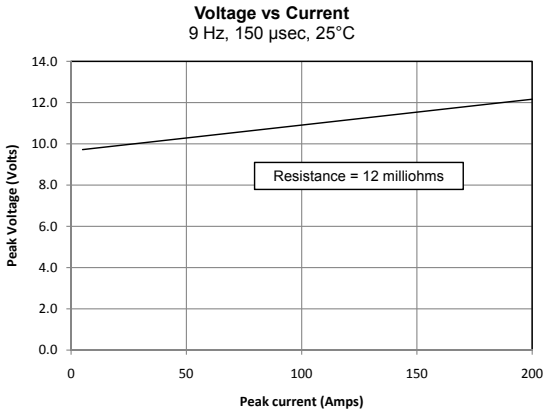
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

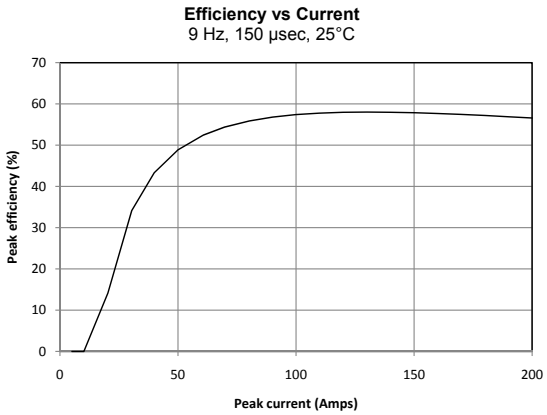
1200W QCW

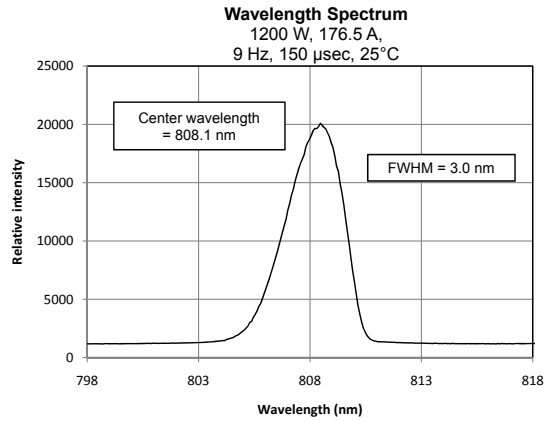
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)

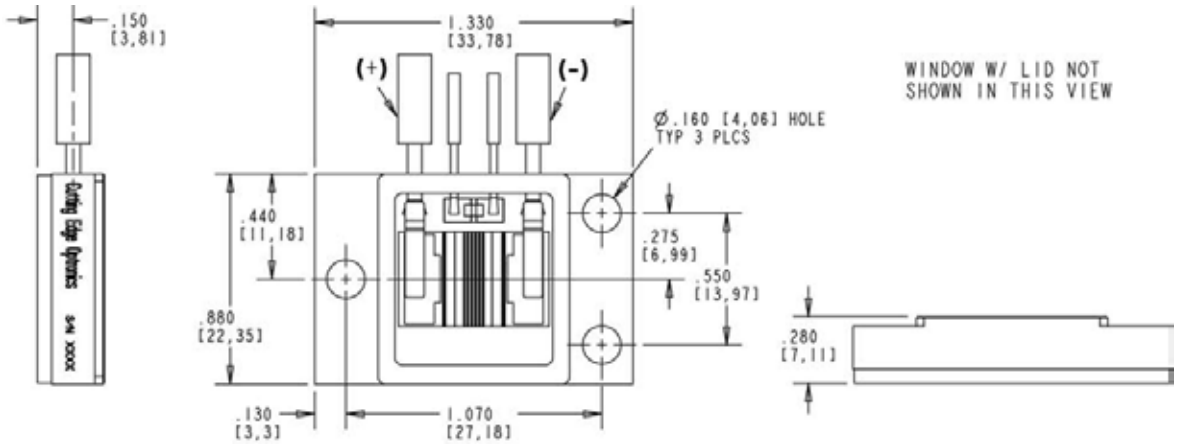








MECHANICAL CHARACTERISTICS

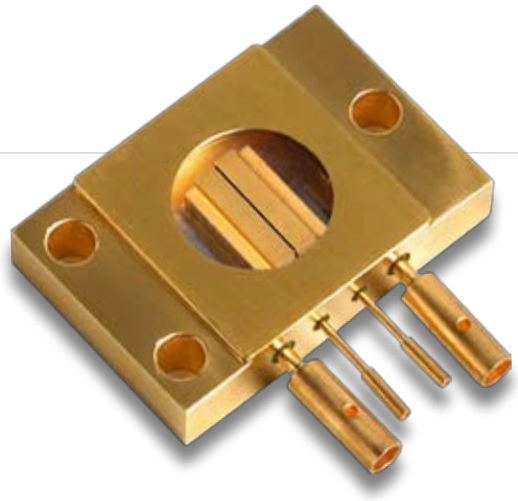


HS PACKAGE

LASER DIODE ARRAY

1600W QCW

NORTHROP GRUMMAN



PART NUMBER: ARR94P1600

8-BAR HERMETICALLY SEALED PACKAGE

FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Standard Bar Pitch Options Include 400 µm, 800 µm, & 1200 µm
- Available Wavelengths: 790-1550nm
- Multi-wavelength Configurations Available
- HS Package Available With Up To 8 Bars For A Maximum Output Power Of 1.6 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25˚C Heat Sink	1600	W
Operating Current	1600W at 25˚C Heat Sink	175	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	10.0	W/A
Electrical-Optical Efficiency	1600W at 25˚C Heat Sink	57	%
Center Wavelength	1600W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	1600W at 25˚C Heat Sink	+/-3	nm
Spectral Width	1600W at 25˚C Heat Sink	2.5	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	0.016	Ω
Operating Voltage	25˚C Heat Sink, 1600W	16.0	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.

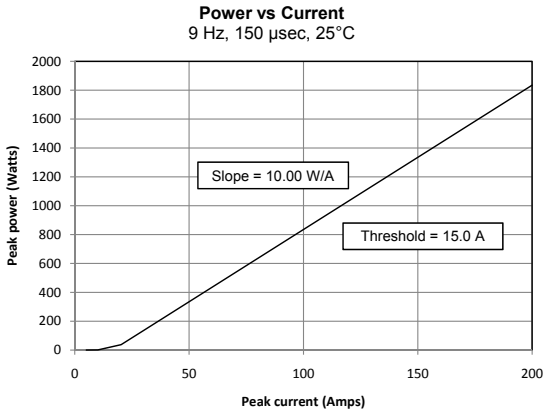
(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

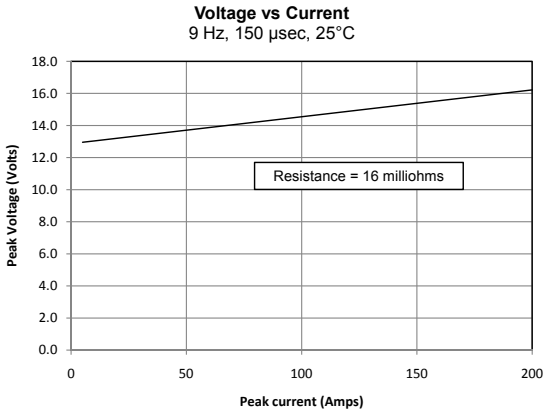
(3) Fast axis and slow axis lensing options are available for most NG-CEO heat exchanger designs.

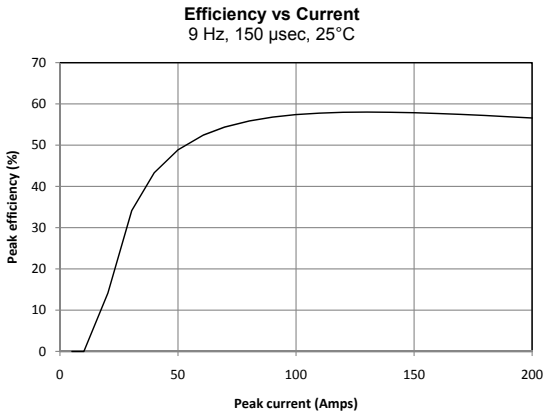
1600W QCW

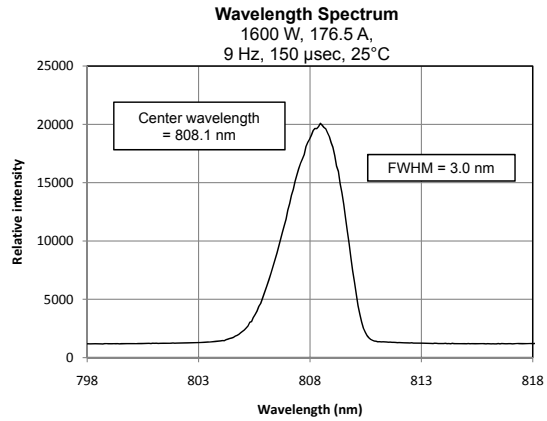
NORTHROP GRUMMAN

OPTICAL CHARACTERISTICS (SAMPLE)









MECHANICAL CHARACTERISTICS