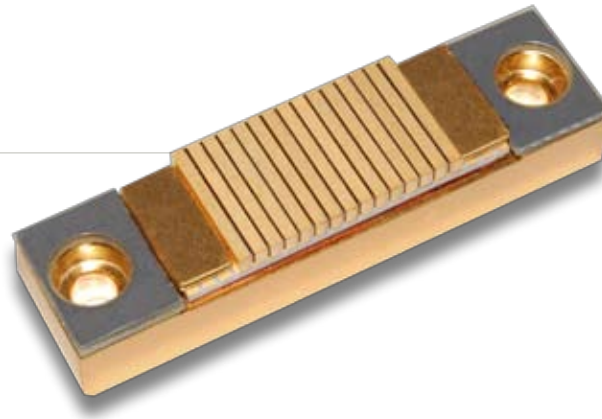


PART NUMBER: ARR181P1100
11-BAR X-STRETCH G PACKAGE

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
- G Package Also Available With Up To 26 Bars For A Maximum Output Power Of 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25°C Heat Sink	1100	W
Operating Current	1100W at 25°C Heat Sink	95	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	13.8	W/A
Electrical-Optical Efficiency	1100W at 25°C Heat Sink	58	%
Center Wavelength	1100W at 25°C Heat Sink	808	nm
Wavelength Tolerance	1100W at 25°C Heat Sink	+/-3	nm
Spectral Width	1100W 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	0.022	Ω
Operating Voltage	25°C Heat Sink, 1100W	19.8	V

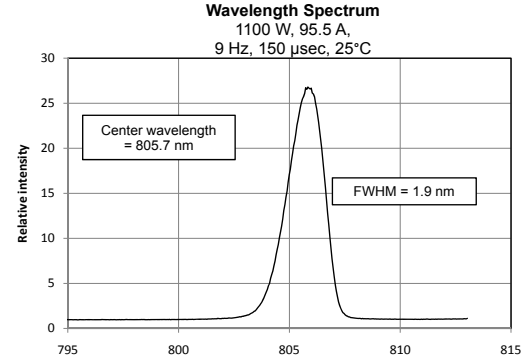
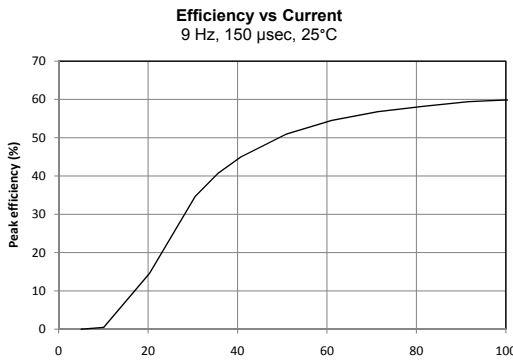
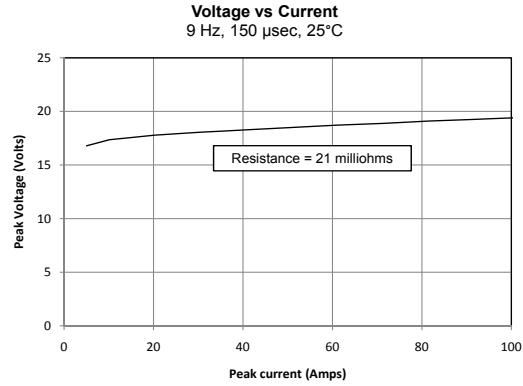
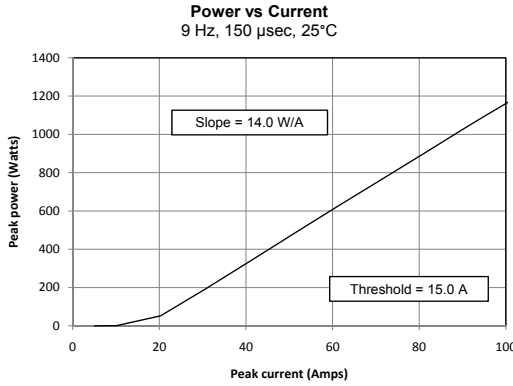
ABSOLUTE MAXIMUM RATINGS

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

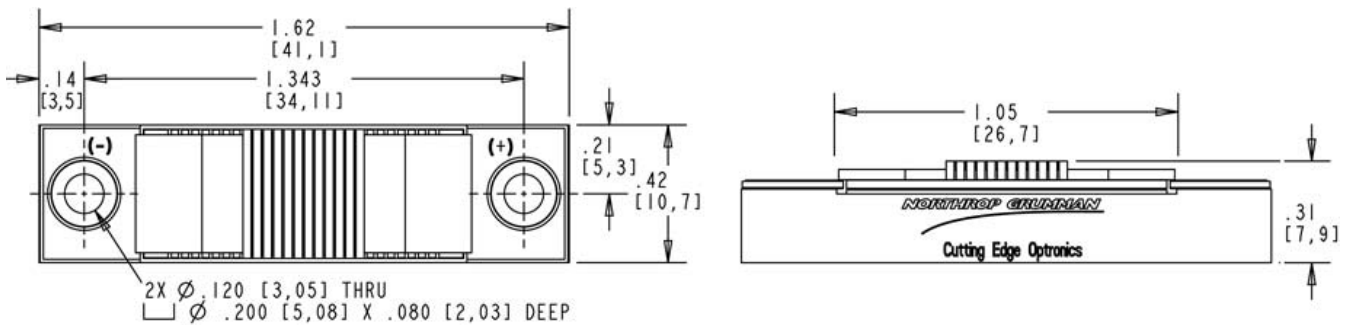
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS



Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

WARNING

DANGER

INVISIBLE LASER RADIATION

AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

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

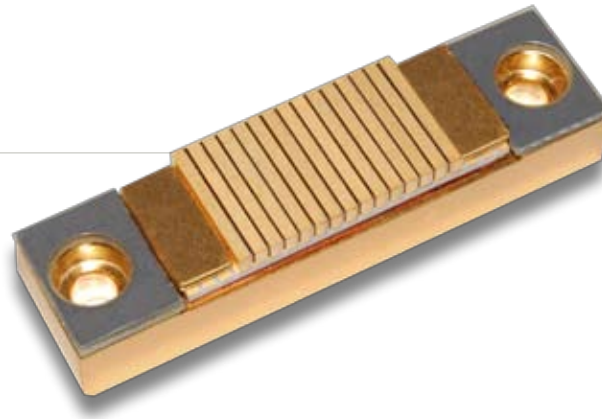
WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV. A 10/09

PART NUMBER: ARR181P1800
18-BAR X-STRETCH G 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
- G Package Also Available With Up To 26 Bars For A Maximum Output Power Of 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25°C Heat Sink	1800	W
Operating Current	1800W at 25°C Heat Sink	95	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	22.5	W/A
Electrical-Optical Efficiency	1800W at 25°C Heat Sink	58	%
Center Wavelength	1800W at 25°C Heat Sink	808	nm
Wavelength Tolerance	1800W at 25°C Heat Sink	+/-3	nm
Spectral Width	1800W 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	0.036	Ω
Operating Voltage	25°C Heat Sink, 1800W	32.4	V

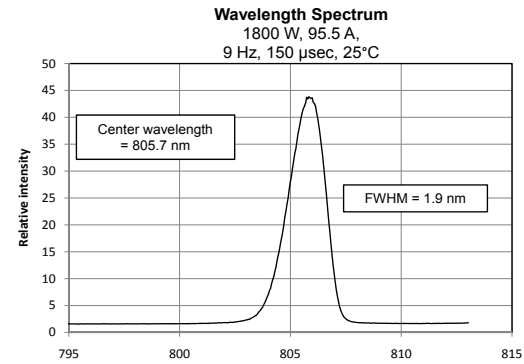
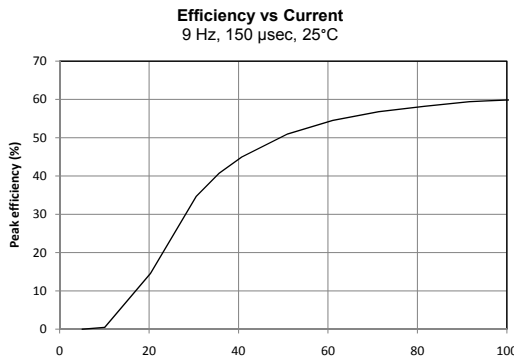
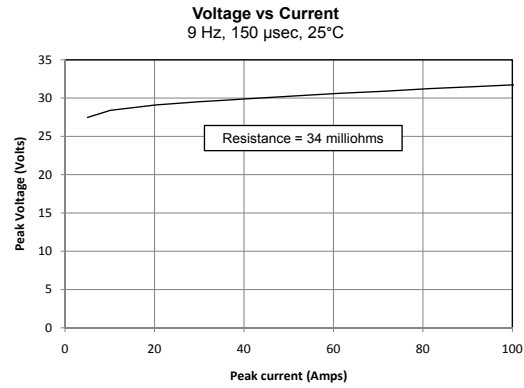
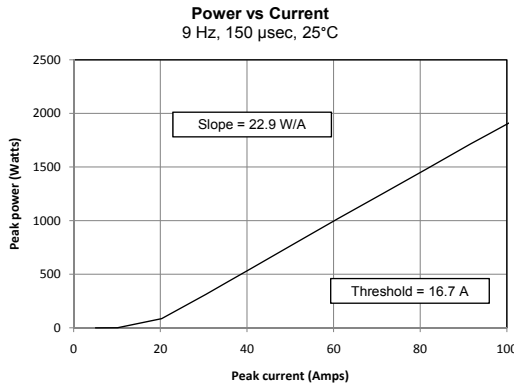
ABSOLUTE MAXIMUM RATINGS

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

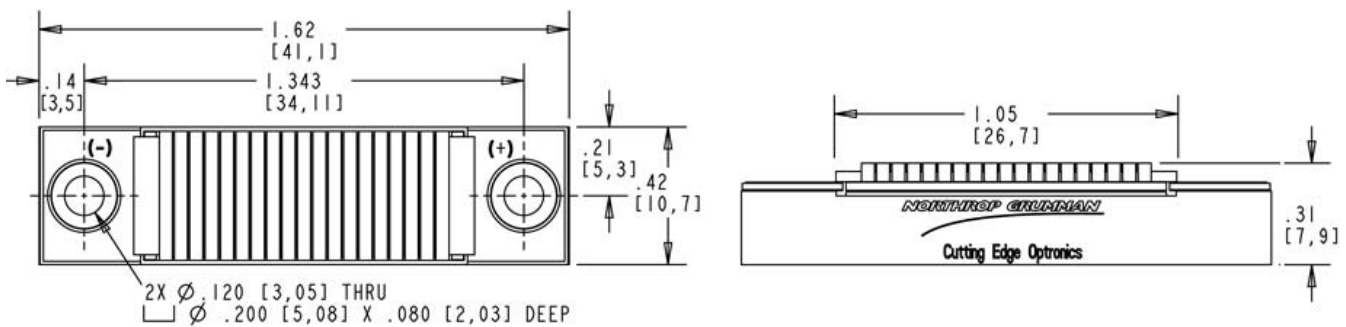
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS



Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

DANGER

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

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

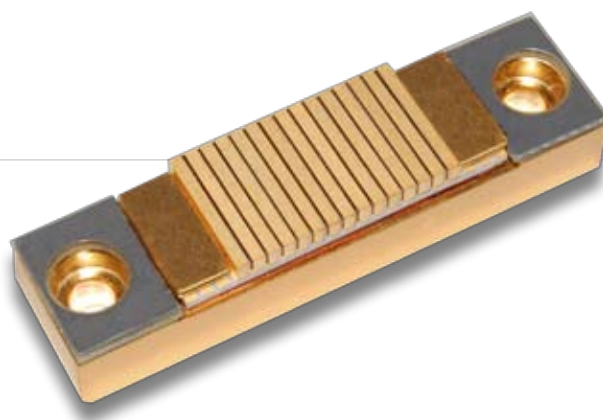
WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV. A 10/09

PART NUMBER: ARR181P2000
20-BAR X-STRETCH G 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
- G Package Also Available With Up To 26 Bars For A Maximum Output Power Of 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25°C Heat Sink	2000	W
Operating Current	2000W at 25°C Heat Sink	95	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	25.0	W/A
Electrical-Optical Efficiency	2000W at 25°C Heat Sink	58	%
Center Wavelength	2000W at 25°C Heat Sink	808	nm
Wavelength Tolerance	2000W at 25°C Heat Sink	+/-3	nm
Spectral Width	2000W 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	0.040	Ω
Operating Voltage	25°C Heat Sink, 2000W	36.0	V

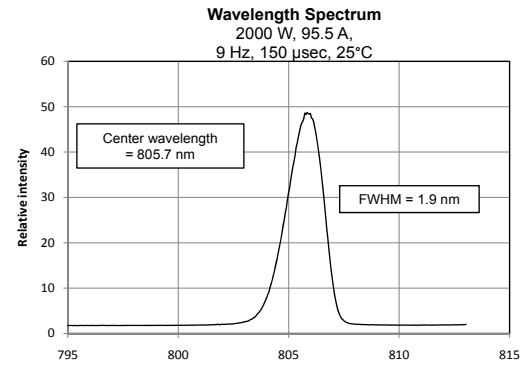
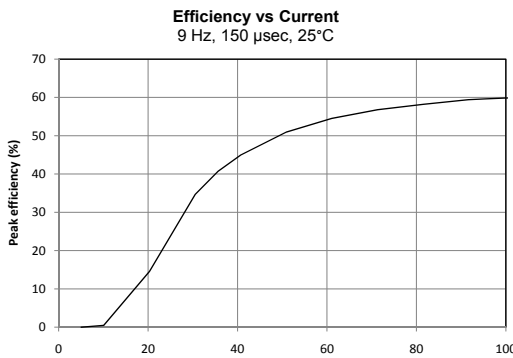
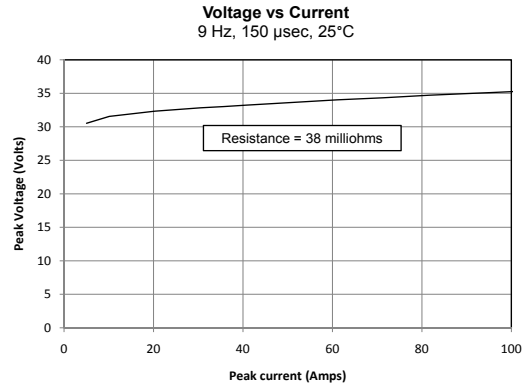
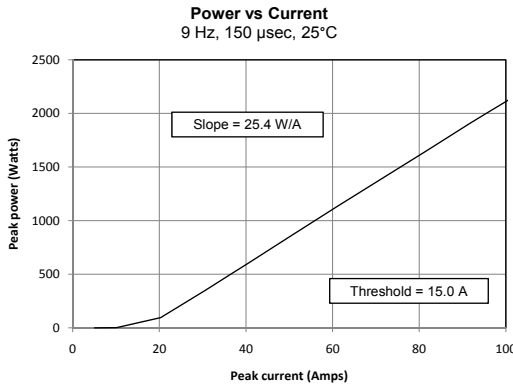
ABSOLUTE MAXIMUM RATINGS

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

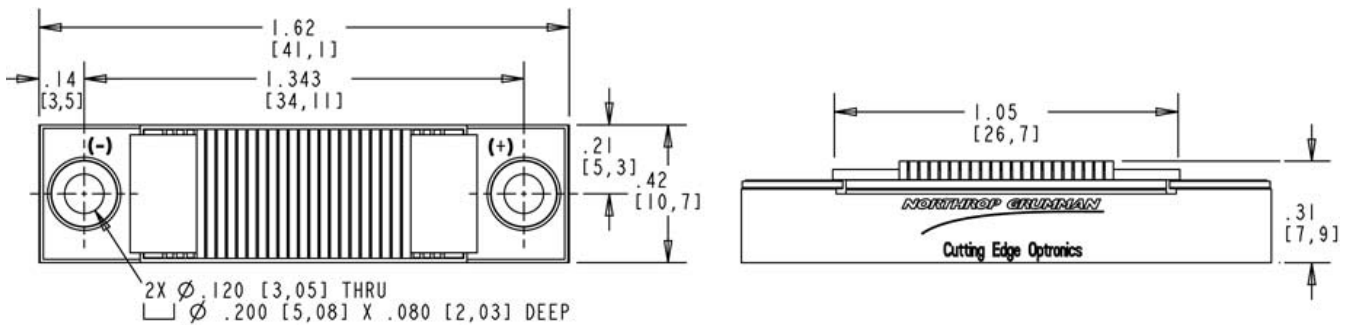
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS

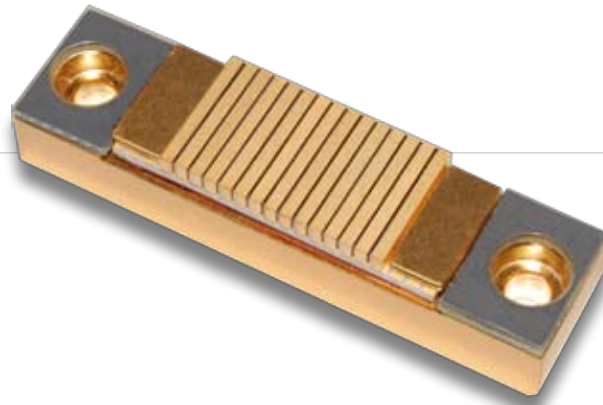


Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

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: ARR181P2200
11-BAR X-STRETCH G 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
- G Package Also Available With Up To 26 Bars For A Maximum Output Power Of 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25°C Heat Sink	2200	W
Operating Current	2200W at 25°C Heat Sink	175	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	13.8	W/A
Electrical-Optical Efficiency	2200W at 25°C Heat Sink	57	%
Center Wavelength	2200W at 25°C Heat Sink	808	nm
Wavelength Tolerance	2200W at 25°C Heat Sink	+/-3	nm
Spectral Width	2200W 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	0.022	Ω
Operating Voltage	25°C Heat Sink, 2200W	22.0	V

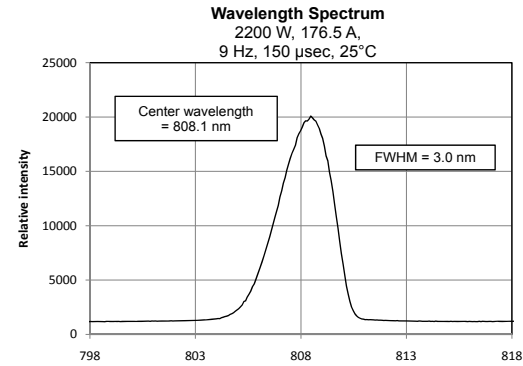
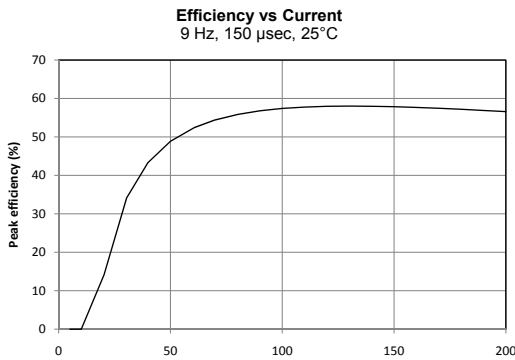
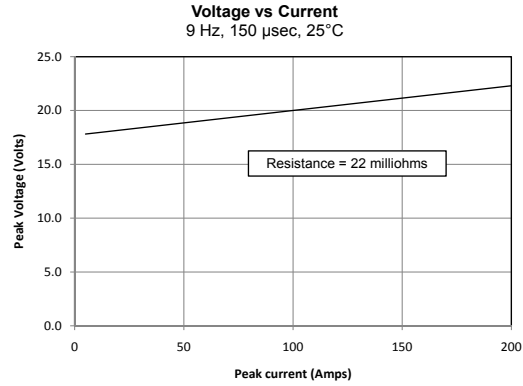
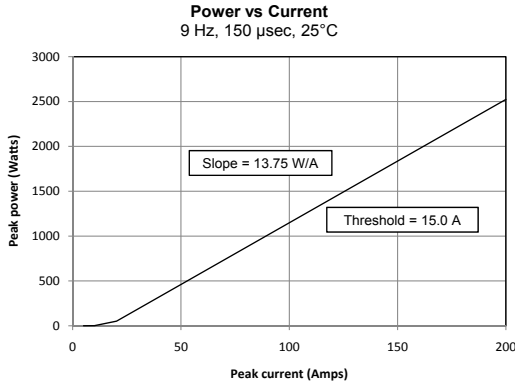
ABSOLUTE MAXIMUM RATINGS

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

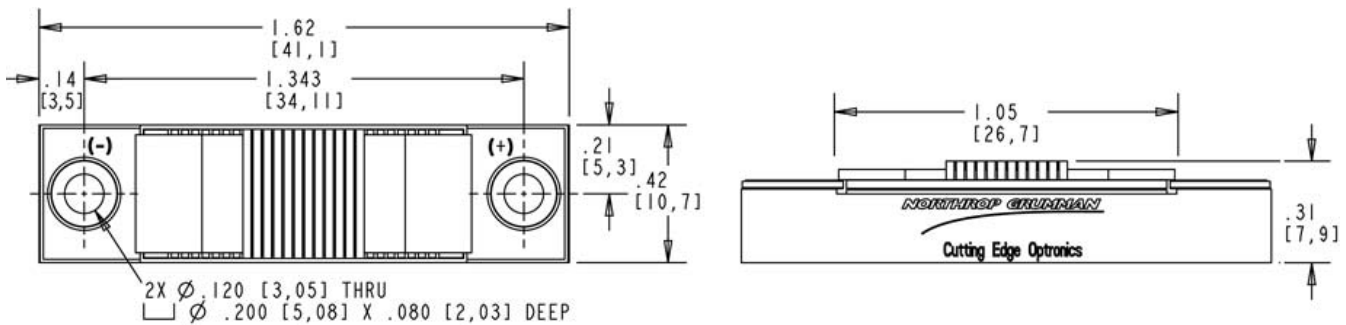
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS

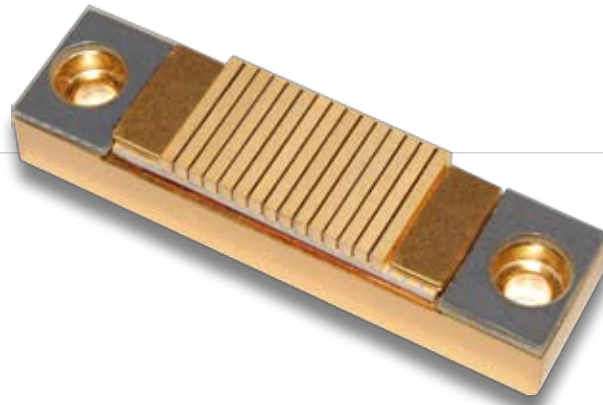


Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

WARNING
DANGER
 INVISIBLE LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.
 Diode laser
 5W & up, 780-1560nm
 CLASS IV
 ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
 REQUIRING SPECIAL HANDLING

PART NUMBER: ARR181P2600
26-BAR X-STRETCH G 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
- G Package Is Available With Up To 26 Bars For A Maximum Output Power Of Up To 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25°C Heat Sink	2600	W
Operating Current	2600W at 25°C Heat Sink	95	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	32.5	W/A
Electrical-Optical Efficiency	2600W at 25°C Heat Sink	58	%
Center Wavelength	2600W at 25°C Heat Sink	808	nm
Wavelength Tolerance	2600W at 25°C Heat Sink	+/-3	nm
Spectral Width	2600W 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	0.052	Ω
Operating Voltage	25°C Heat Sink, 2600W	46.8	V

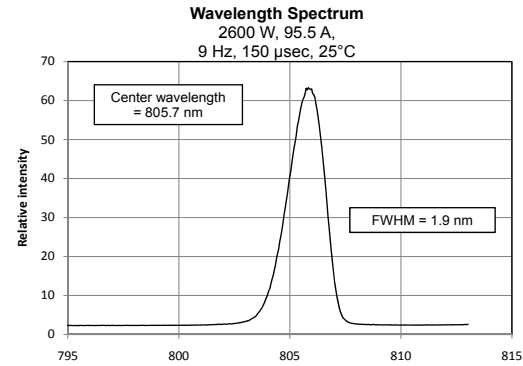
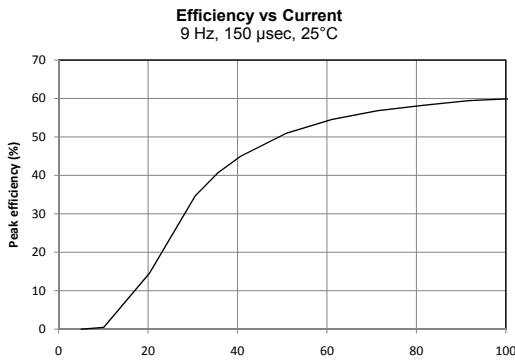
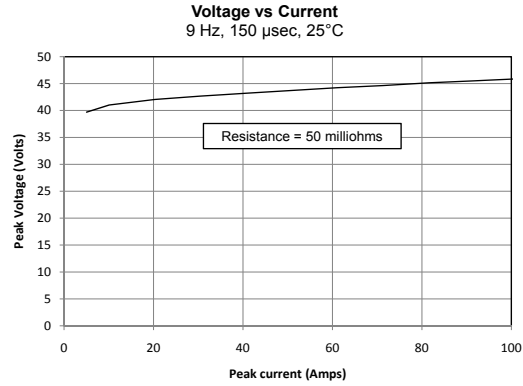
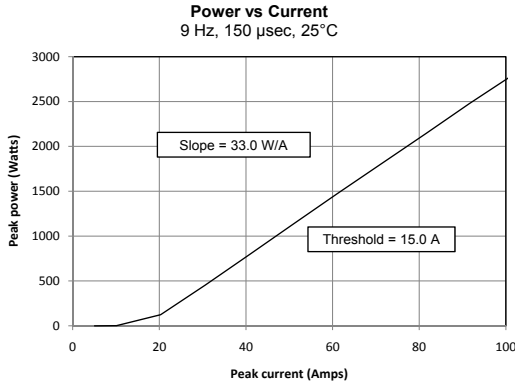
ABSOLUTE MAXIMUM RATINGS

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

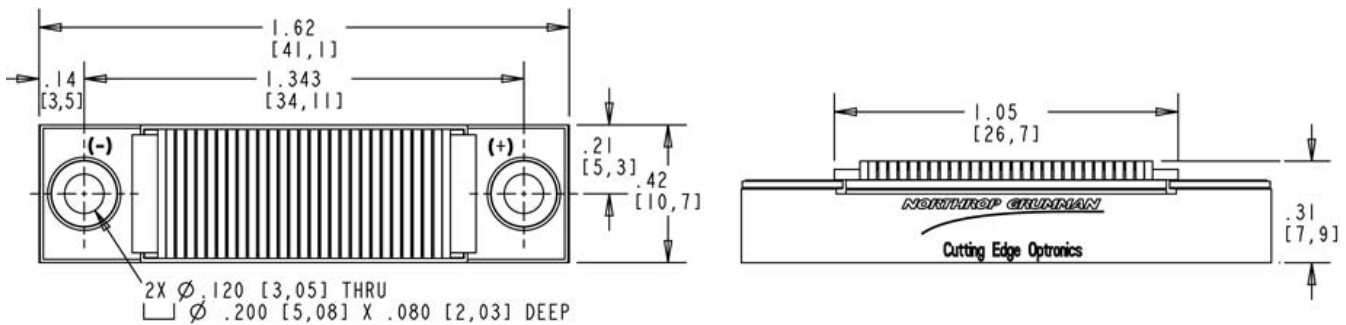
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS



Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

DANGER

INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

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

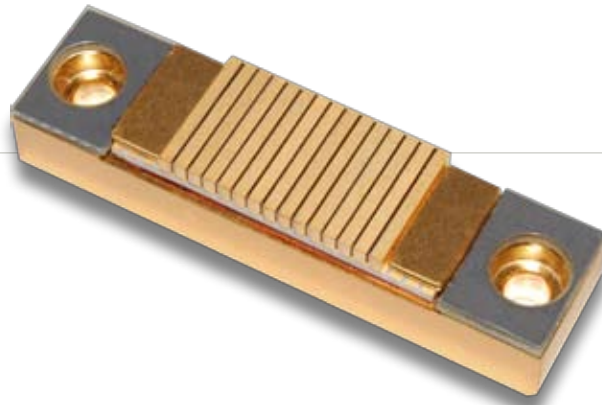
WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV. A 10/09

PART NUMBER: ARR181P3600
18-BAR X-STRETCH G 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
- G Package Also Available With Up To 26 Bars For A Maximum Output Power Of 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25°C Heat Sink	3600	W
Operating Current	3600W at 25°C Heat Sink	175	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	22.5	W/A
Electrical-Optical Efficiency	3600W at 25°C Heat Sink	57	%
Center Wavelength	3600W at 25°C Heat Sink	808	nm
Wavelength Tolerance	3600W at 25°C Heat Sink	+/-3	nm
Spectral Width	3600W 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	0.036	Ω
Operating Voltage	25°C Heat Sink, 3600W	36.0	V

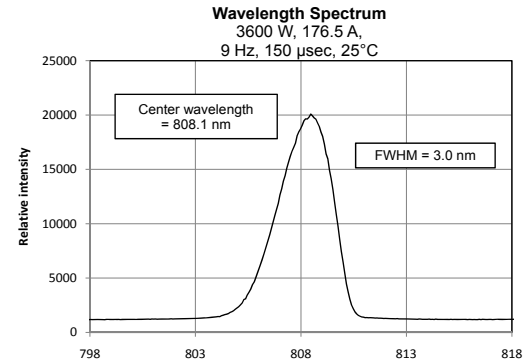
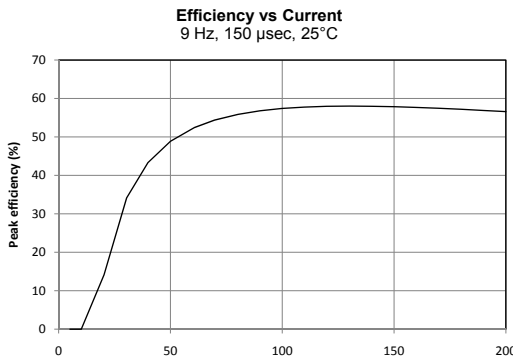
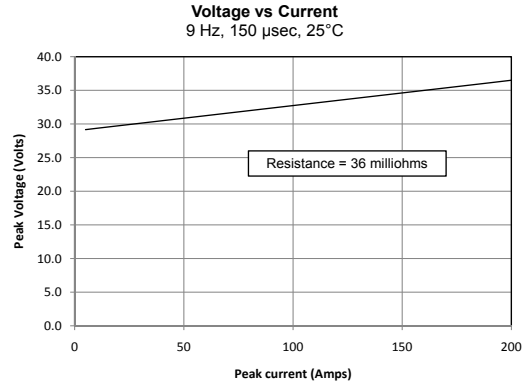
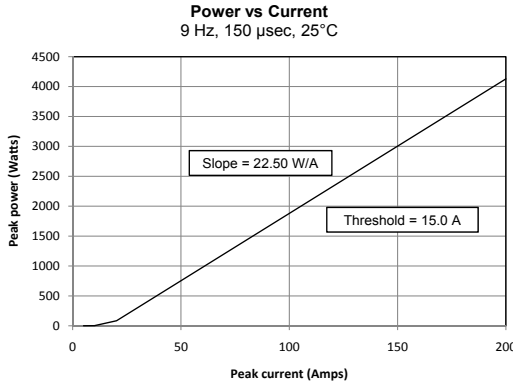
ABSOLUTE MAXIMUM RATINGS

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

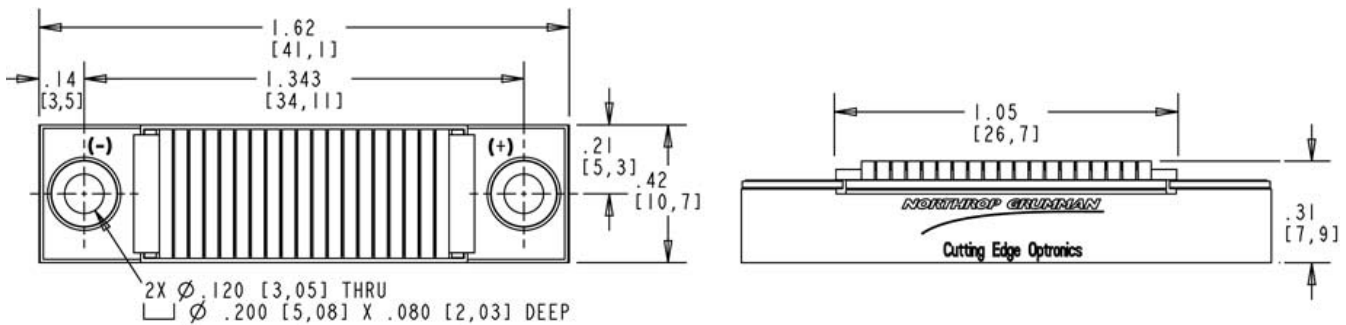
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS



Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

WARNING

DANGER

INVISIBLE LASER RADIATION

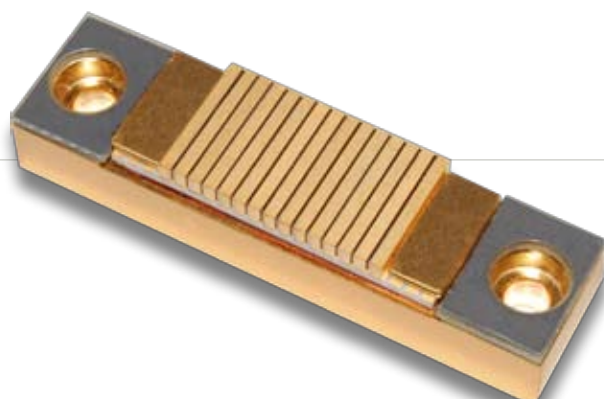
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.

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

WARNING

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE
REQUIRING SPECIAL HANDLING

REV: 10/09



PART NUMBER: ARR181P4000
20-BAR X-STRETCH G 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
- G Package Also Available With Up To 26 Bars For A Maximum Output Power Of 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25°C Heat Sink	4000	W
Operating Current	4000W at 25°C Heat Sink	175	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	25.0	W/A
Electrical-Optical Efficiency	4000W at 25°C Heat Sink	57	%
Center Wavelength	4000W at 25°C Heat Sink	808	nm
Wavelength Tolerance	4000W at 25°C Heat Sink	+/-3	nm
Spectral Width	4000W 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	0.040	Ω
Operating Voltage	25°C Heat Sink, 4000W	40.0	V

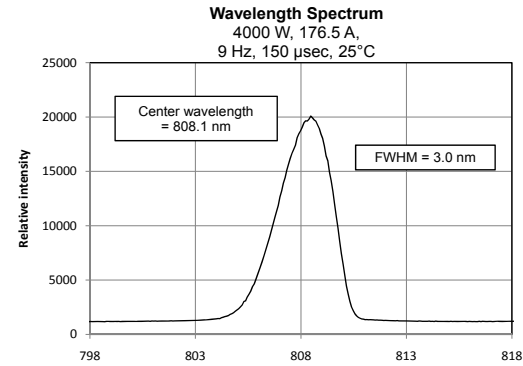
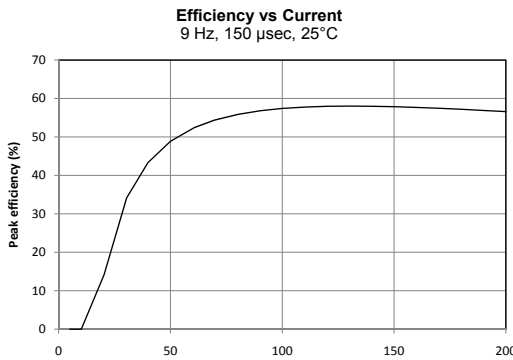
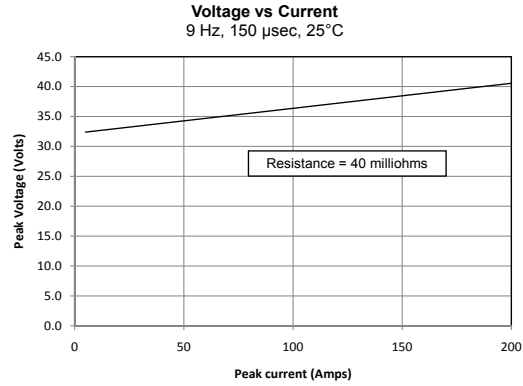
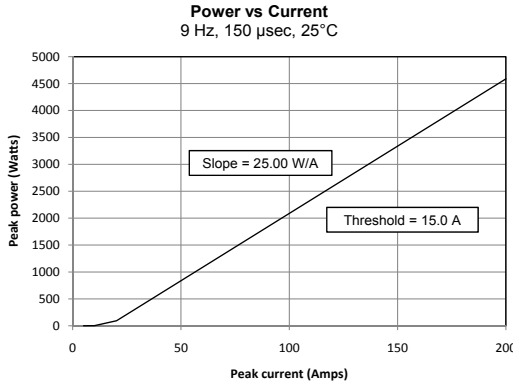
ABSOLUTE MAXIMUM RATINGS

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

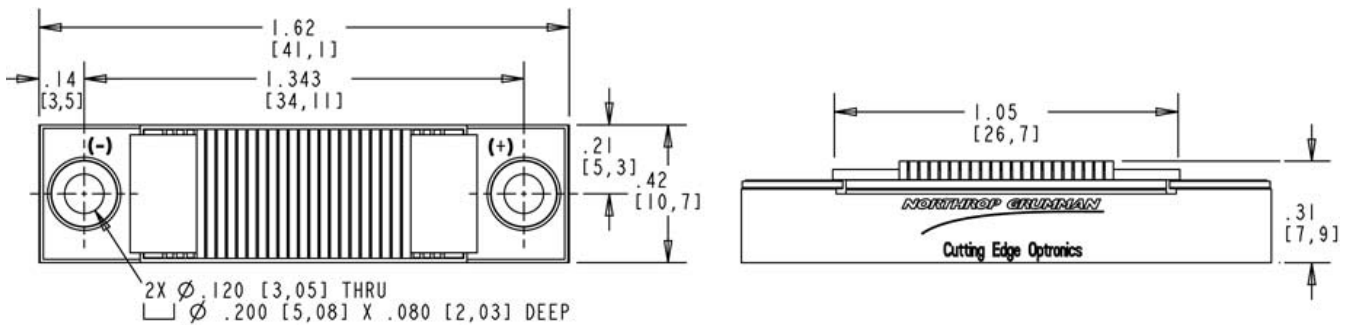
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)

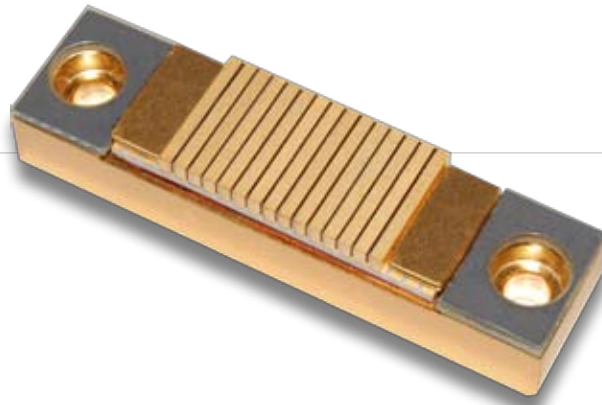


MECHANICAL CHARACTERISTICS



Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

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



PART NUMBER: ARR181P5200
26-BAR X-STRETCH G 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
- G Package Is Available With Up To 26 Bars For A Maximum Output Power Of Up To 5.2 kW

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25°C Heat Sink	5200	W
Operating Current	5200W at 25°C Heat Sink	175	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	32.5	W/A
Electrical-Optical Efficiency	5200W at 25°C Heat Sink	57	%
Center Wavelength	5200W at 25°C Heat Sink	808	nm
Wavelength Tolerance	5200W at 25°C Heat Sink	+/-3	nm
Spectral Width	5200W 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	0.052	Ω
Operating Voltage	25°C Heat Sink, 5200W	52.0	V

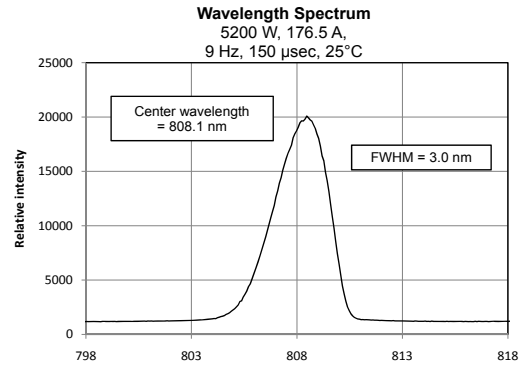
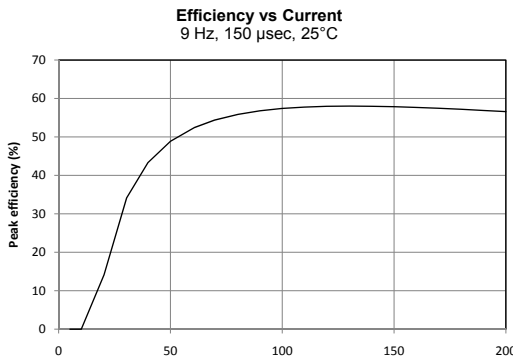
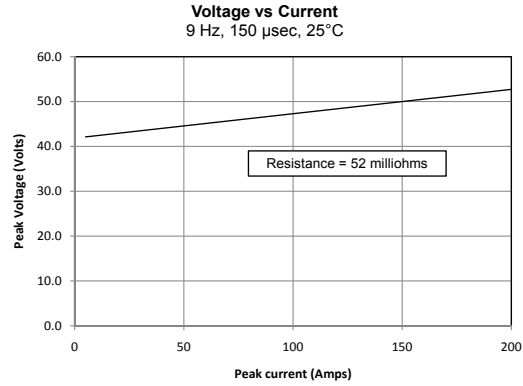
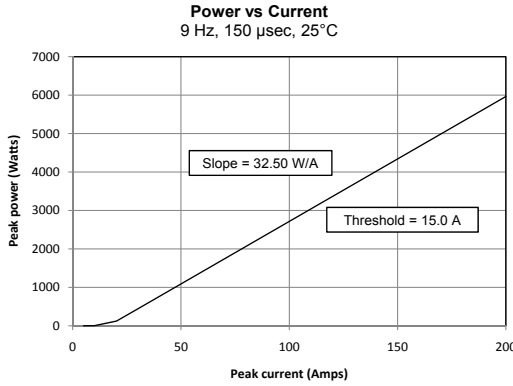
ABSOLUTE MAXIMUM RATINGS

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

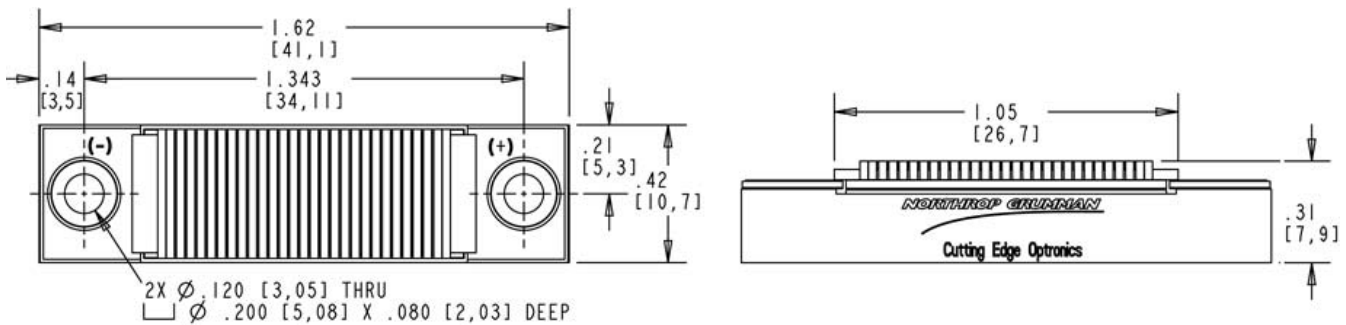
NOTES

- (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.

OPTICAL CHARACTERISTICS (SAMPLE)



MECHANICAL CHARACTERISTICS



Copyright © 2008 Northrop Grumman Cutting Edge Optronics All Rights Reserved. Northrop Grumman Cutting Edge Optronics reserves the right to change product design and specifications at any time without notice. No license is granted by implication or otherwise under any patents or patent rights of Northrop Grumman Cutting Edge Optronics or others. No responsibility is assumed for the use of these products, nor for any infringement on the rights of others resulting from the use of these products. Information contained herein is believed to be reliable and accurate. 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. This Product is covered by one or more of the following Patents: 5,898,211 | 5,985,684 | 5,913,108 | 6,310,900 | Other US and Foreign Patents Pending. 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.

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