

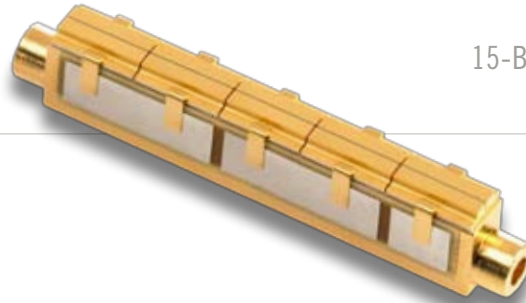
# DERRINGER PACKAGE

LASER DIODE ARRAY

## 3000W QCW

**NORTHROP GRUMMAN**

PART NUMBER: ARR115P3000  
15-BAR X-STRETCH DERRINGER PACKAGE



### FEATURES AND BENEFITS

- Assembled With Hard Solder & Expansion Matched Materials
- Ideal For Long Pulse And/Or High Duty Cycle Applications
- Multi-wavelength Configurations Available From 790-1550nm
- Standard Bar Pitch Options Include 400  $\mu\text{m}$ , 800  $\mu\text{m}$ , and 1200  $\mu\text{m}$
- Small, Compact Water Cooled Design Is Ideal For Side Pumping Or Direct Diode Applications
- Derringer Package Available With Up To 40 Bars And A Maximum Output Power Of 8.0 kW

### OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25°C Heat Sink	3000	W
Operating Current	3000W at 25°C Heat Sink	175	A
Threshold Current	25°C Heat Sink	15	A
Slope Efficiency	25°C Heat Sink	18.8	W/A
Electrical-Optical Efficiency	3000W at 25°C Heat Sink	57	%
Center Wavelength	3000W at 25°C Heat Sink	808	nm
Wavelength Tolerance	3000W at 25°C Heat Sink	+/-3	nm
Spectral Width	3000W 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	0.030	$\Omega$
Operating Voltage	25°C Heat Sink, 3000W	30.0	V

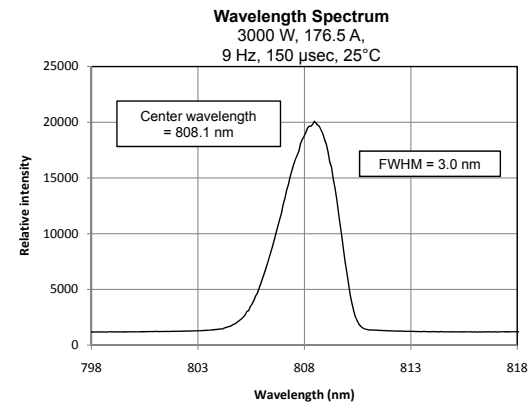
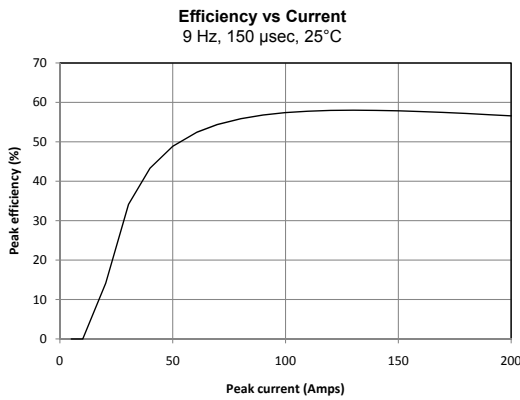
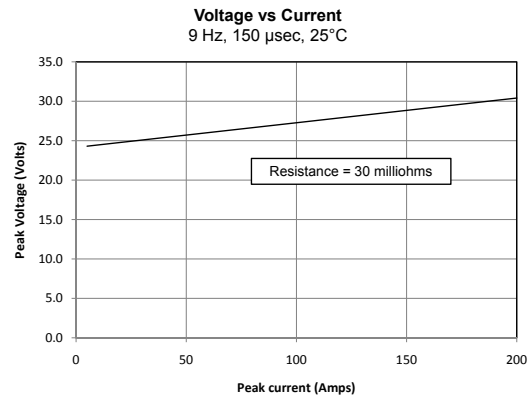
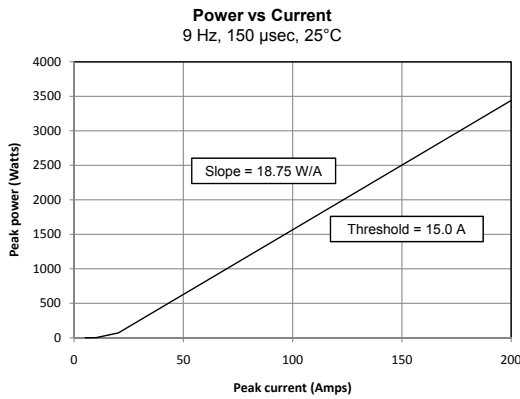
### ABSOLUTE MAXIMUM RATINGS

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

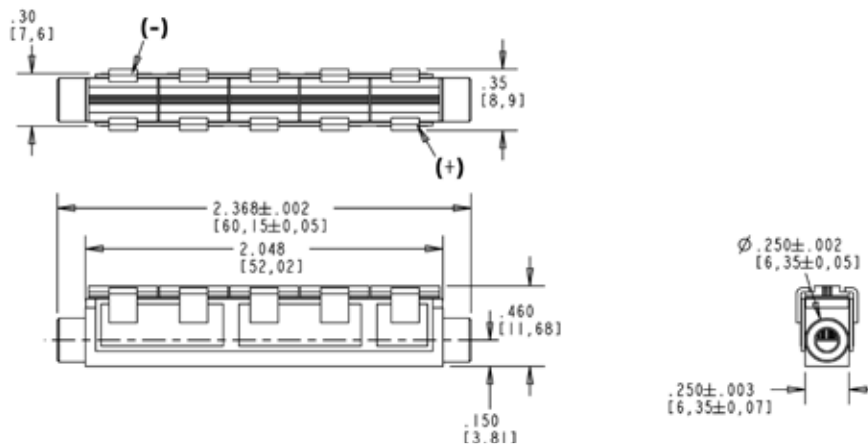
### NOTES

- (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



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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

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**WARNING**

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE  
REQUIRING SPECIAL HANDLING

REV. A 10/09 REV 0011-1000 (Rev. 0)