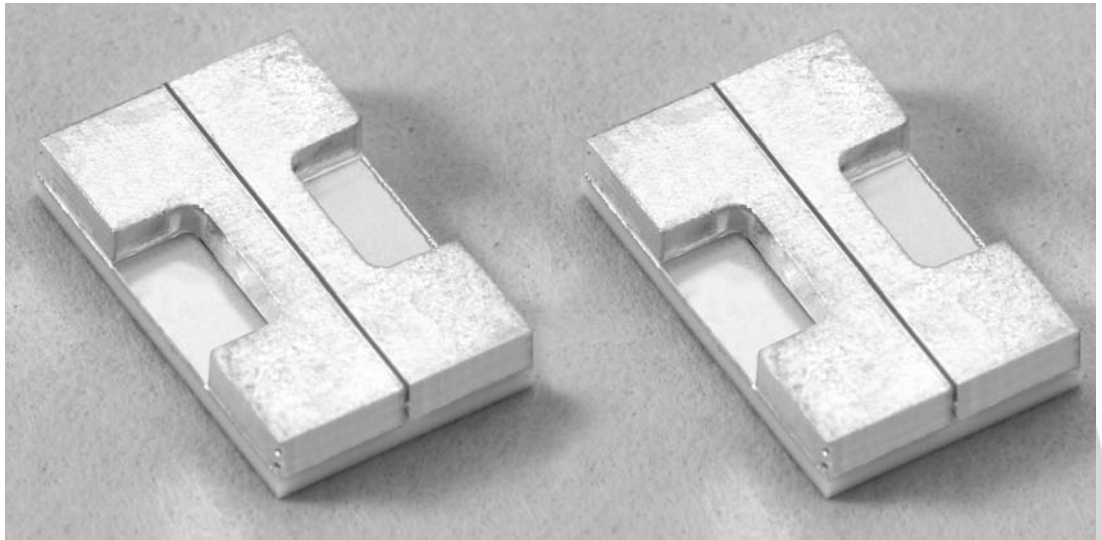


# 50W QCW Laser Diode Array Submodule

## Part Number: ASMO1PO50

### SILVER BULLET™

- Packaged Laser Diode Array
- Easily Soldered to a Heat Exchanger
- Available Wavelengths (790-1550nm)



### OPTICAL CHARACTERISTICS

| PARAMETER             | CONDITIONS            | MIN  | TYP   | MAX   | UNITS |
|-----------------------|-----------------------|------|-------|-------|-------|
| QCW Peak Power Output | 65A, 150 µsec, 1kHz   | 50   | ---   | ---   | W     |
| Operating Current     | 50W at 25°C Heat Sink | ---  | 55    | 65    | A     |
| Threshold Current     | 25°C Heat Sink        | ---  | 13    | 16    | A     |
| Center Wavelength     | 50W at 25°C Heat Sink | ---  | 808   | ---   | nm    |
| Wavelength Tolerance  | 50W at 25°C Heat Sink | ---  | ± 3   | ---   | nm    |
| Spectral Width FWHM   | 50W at 25°C Heat Sink | ---  | 2.0   | 2.5   | nm    |
| Wavelength Shift      | ---                   | 0.23 | 0.25  | 0.27  | nm/°C |
| Beam Divergence FWHM  | ---                   | ---  | 40x10 | 42x12 | ° x ° |

### ELECTRICAL CHARACTERISTICS

| PARAMETER         | CONDITIONS          | MIN | TYP   | MAX   | UNITS |
|-------------------|---------------------|-----|-------|-------|-------|
| Series Resistance | 25°C Heat Sink      | --- | 0.008 | 0.012 | ohms  |
| Operating Voltage | 25°C Heat Sink, 50W | --- | 2.0   | 2.3   | V     |

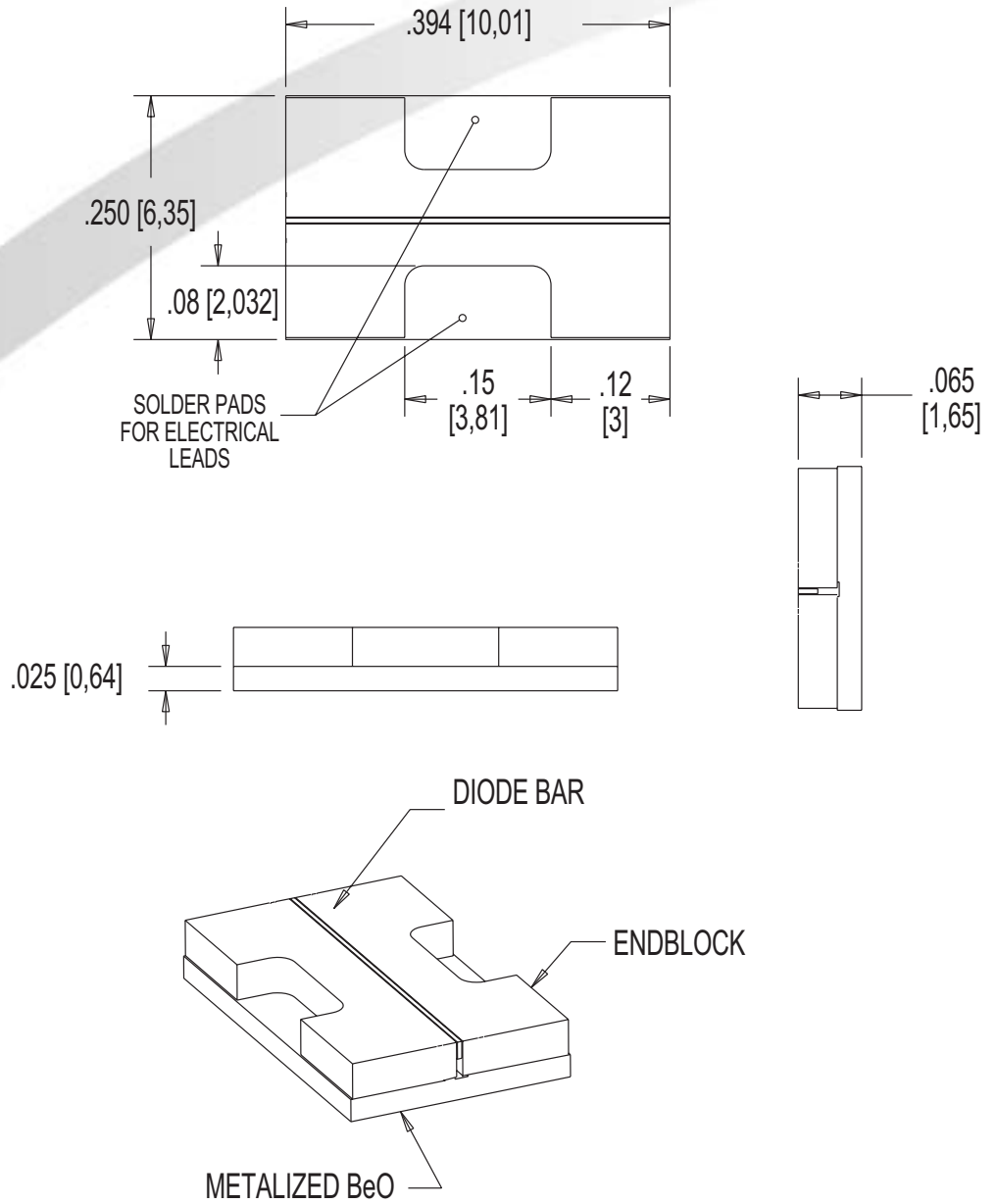
### ABSOLUTE MAXIMUM RATINGS

| PARAMETER                                  | CONDITIONS    |
|--|---------------|
| Forward Current                            | 70A           |
| Reverse Current                            | 25µA          |
| Reverse Voltage                            | 3V            |
| Operating Temperature Range <sup>(2)</sup> | -20°C to 50°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.

# MECHANICAL CHARACTERISTICS



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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.

**DANGER**

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

\* Diode laser  
5W & up, 790-1560nm  
CLASS IV

**WARNING**

ELECTROSTATIC DISCHARGE SENSITIVE DEVICE REQUIRING SPECIAL HANDLING



Rev B 02/04

**NORTHROP GRUMMAN**

*Space Technology*

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