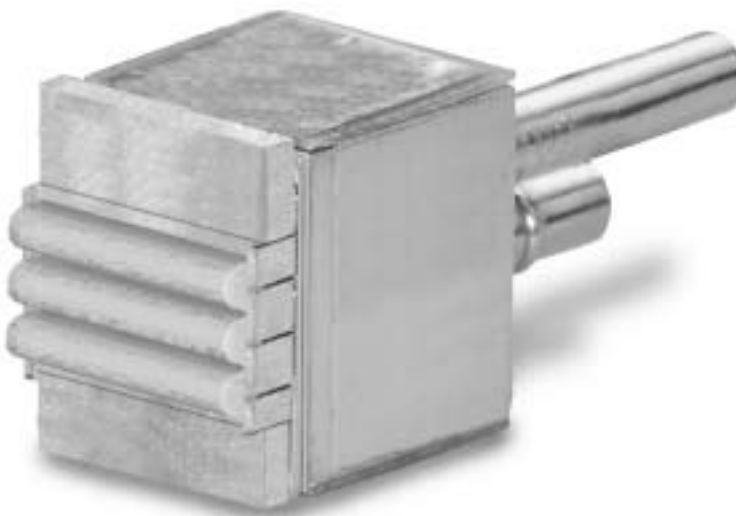


## 45W Lensed CW Laser Diode Array Part Number: LAR23C045

### E2 PACKAGE

- CW powers up to 320W
- QCW powers up to 600W
- Higher powers and custom configurations available



### OPTICAL CHARACTERISTICS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
CW Power Output	30A at 25°C Heat Sink <sup>(1)</sup>	45	---	---	W
Operating Current	45W at 25°C Heat Sink	---	28	34	A
Threshold Current	25°C Heat Sink	---	7.5	9.0	A
Slope Efficiency	25°C Heat Sink	2.7	3.3	---	W/A
Efficiency	45W at 25°C Heat Sink	28	42	---	%
Number of Emitters per bar <sup>(2)</sup>	---	---	46 x 3	---	
Bar Pitch	---	0.8	1.9	3.2	mm
Emitter Size <sup>(2)</sup>	---	---	80 x 1	---	µm
Emitter Pitch <sup>(2)</sup>	---	---	200	---	µm
Center Wavelength <sup>(3)</sup>	45W at 25°C Heat Sink	792	808	812	nm
Wavelength Tolerance <sup>(3)</sup>	45W at 25°C Heat Sink	± 1	± 3	± 4	nm
Spectral Width	45W at 25°C Heat Sink	---	3.1	4.0	nm
Wavelength Shift	---	0.23	0.25	0.27	nm/°C
Beam Divergence FWHM	---	---	3 x 10	---	° x °
Polarization	---	---	TE	---	---
Degradation Rate <sup>(4)</sup>	25°C Heat Sink	---	3	---	%/kHr

### ELECTRICAL CHARACTERISTICS

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Built-in Voltage	25°C Heat Sink	---	4.8	5.1	V
Series Resistance	25°C Heat Sink	---	0.015	0.036	ohms
Operating Voltage	25°C Heat Sink, 45W	---	5.4	6.3	V

U.S. Patent Numbers: 5,734,672 5,913,108

#### NOTES

(1) Lower beam divergence is also available.

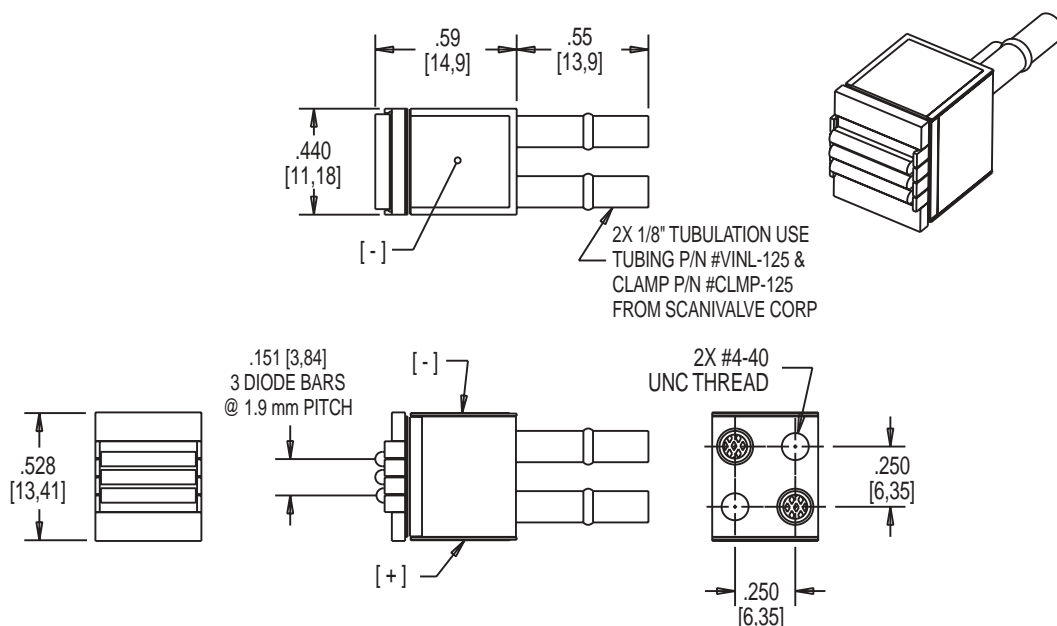
(2) Typical degradation rates are 5% in the first 100 hours and 3% per 1,000 hours thereafter.

## ABSOLUTE MAXIMUM RATINGS

PARAMETER	CONDITIONS
Forward Current	35A
Reverse Current	25 $\mu$ A
Reverse Voltage	3V
Operating Temperature Range <sup>(5)</sup>	-20°C or to 50°C
Storage Temperature Range	-40°C to 85°C

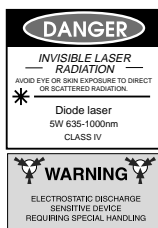
## MECHANICAL CHARACTERISTICS

PARAMETER	DIMENSIONS
Package Length	0.44 $\pm$ 0.005 inches
Package Width	.528 $\pm$ 0.005 inches
Package Height	1.04 $\pm$ 0.01 inches
Package Thermal Resistance	0.5°C/W
Pressure Drop	<25 psi @ 0.4 gpm



### NOTES

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



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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 eye-wear must be worn at all times. Use of optical instruments with these products may increase eye hazard. Always wear proper eye protection when operating.