

## 680 nm 10 Watt CW Diode Array

The LDX-4119-680 is a high power CW monolithic laser diode array. The InAlGaP epitaxial design offers high efficiency, and proven reliability.

Standard packaging is a 20 x 20 x 6 mm copper heatsink. Because of the temperature sensitive nature of this type of laser, they must be aggressively cooled for proper operation. To achieve the maximum ratings, the temperature of the laser heatsink must be held near 15°C with TEC or chilled water cooling.

Other laser wavelengths and stripe configurations are available from 630 to 1060 nm; please inquire.

### General Specifications:

| Parameter               | Min. | Typ.    | Max. | Units |
|-------------------------|------|---------|------|-------|
| CW Output Power @ 15 °C | 10   |         | 11   | watts |
| Array Length            |      | 1       |      | cm    |
| Emitter Dimensions      |      | 150 x 1 |      | µm    |
| Emitter Spacing         |      | 500     |      | µm    |
| Number of Emitters      |      | 19      |      |       |

### Environmental Specifications:

| Parameter                   | Min. | Typ. | Max. | Units |
|-----------------------------|------|------|------|-------|
| Laser Operating Temperature | 0    | 15   | 20   | °C    |
| Storage Temperature         | -20  |      | 60   | °C    |
| Humidity (non-condensing)   | 0%   |      | 95%  |       |

### Device characteristics at 15 °C and at 10 watts output power:

| Parameter                     | Min. | Typ.  | Max. | Units          |
|-------------------------------|------|-------|------|----------------|
| Operating Current             | 24   | 30    | 36   | amps           |
| Threshold Current             | 14   | 18    | 22   | amps           |
| Forward Voltage               | 1.9  | 2.2   | 2.5  | Volts          |
| Slope Efficiency              | 0.6  | 0.9   | 1.1  | mW/mA          |
| Wavelength                    | 675  | 680   | 685  | nm             |
| Spectral Width                |      | 3     | 6    | nm (FWHM)      |
| Wavelength Temperature Tuning |      | 0.25  |      | nm/°C          |
| Divergence- Parallel          | 5    | 7     | 9    | degrees (FWHM) |
| Divergence- Perpendicular     | 36   | 40    | 44   | degrees (FWHM) |
| Polarization Ratio            |      | >50:1 |      |                |