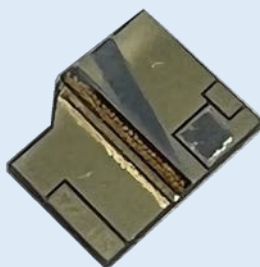


## Product Brief

### FEATURES

- High power & high efficiency
- Diffraction-limited output
- Efficient coupling to SMF
- Operates both continuous wave and pulsed (ns to ms)



### APPLICATIONS

- LIDAR systems for remote sensing and autonomous vehicles
- Free-space optical communication
- Pump source for Er-doped solid-state and fiber laser amplifiers

### NOTES

1. Class 4 high power laser output. Appropriate precautions should be taken by user.
2. Devices are sensitive to electrostatic discharge (ESD). Appropriate precautions should be taken by user.

### OVERVIEW

The 1500 to 1600 nm *aura*™ diode laser offers extraordinarily high-power output in a nearly diffraction-limited single spatial mode. The device architecture is based on a single-mode tapered waveguide laser structure. Built-in wavelength stabilization is not included. The nearly diffraction-limited output enables efficient coupling to single-mode fiber and maximizes far-field irradiance when collimated in free space. Various packaging configurations are offered including: 1) hard-soldered junction-down on C-mount, 2) hard-soldered junction-down on ceramic submount, and 3) unsoldered bare chip.

The *aura*™ product line is intended to address applications such as free space optical communication, sensing, and LIDAR in consumer, industrial, and defense markets by enabling watt-level direct use output from a semiconductor chip source.

### SPECIFICATIONS

General Parameter	Typical Value	Unit
<b>Optical</b>		
Center Wavelength	1500 to 1600	nm
Rated Output Power	2.5	W
Spectral Bandwidth, 3 dB	10	nm
Slope Efficiency	0.4	W/A
Slow Axis $M^2$ (ISO 11146-3)	1.3	-
Fraction of Power Diffraction-Limited	90%	%
Slow-Axis Divergence, $4D\sigma$	6	deg
Fast-Axis Divergence, $4D\sigma$	55	deg
Astigmatism	1.7	mm
<b>Electrical</b>		
Operating Current	12	A
Threshold Current	2.4	A
Operating Voltage	1.2	V
Electrical to Optical Efficiency	22%	%
Series Resistance	25	m $\Omega$
<b>Thermal</b>		
Operating Temperature	20	°C
Wavelength-Temperature Coefficient	0.5	nm/°C
Thermal Resistance	3.2	W/A