

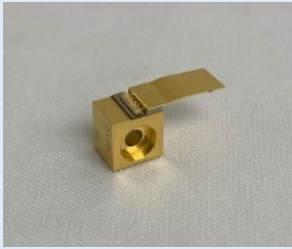
870–1000 nm 1 W Single Spatial Mode Laser



Product Brief

FEATURES

- High power & high efficiency
- Stable single spatial mode
- No astigmatism
- Robust facet passivation



APPLICATIONS

- Pump sources for solid-state and fiber laser amplifiers
- Seed sources for high energy solid state and fiber lasers
- Pulsed laser sources for marking
- LIDAR systems for remote sensing
- 3D imaging systems for autonomous vehicles
- Trace gas detection.

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 870 to 1000 nm single spatial mode diode laser offers unprecedented power output in a nearly diffraction-limited mode. The device architecture is a single-mode ridge waveguide Fabry-Perot laser structure. This laser is ideally suited for applications including resonant end-pumping of Nd and Yb-doped solid state and fiber lasers with low quantum defect. The nearly diffraction-limited output enables precise matching of the pumped gain region with the solid-state laser cavity mode and efficient coupling to single-mode fiber.

The packaging format is as follows: the device is hard-soldered junction-side down onto a C-mount package. The C-mount has a copper base with a CuW expansion-matched insert. Other heatsink formats are available including conductive submounts, ceramic submounts, 14-pin butterfly hermetically-sealed package with collimated and fiber-coupled output, and bare die/bars.

SPECIFICATIONS

General Parameter	Value	Unit
Rated output power	1000	mW
Operating current (typical)	~1100 (at 885 nm) ~1300 (at 980 nm)	mA
Operating voltage (typical)	< 1.9	V
Electrical-to-optical efficiency (typical)	>52	%
Heat sink temperature	20	°C
Center wavelength	870 to 1000	nm
Center wavelength tolerance	± 3	nm
Spectral bandwidth (FWHM)	0.6	nm
Spectral shift with temperature	~0.28 (at 885 nm) ~0.32 (at 980 nm)	nm / °C
Vertical fast axis divergence (FWHM)	~31	deg
Horizontal slow axis divergence (FWHM)	~6	deg

