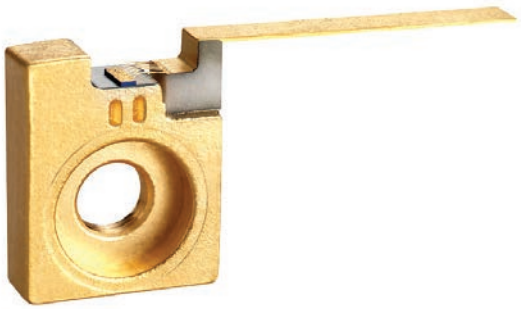
Single Emitter Diode Lasers, 780-830 nm

High-Power Single Emitters for Pumping and Direct-Diode Applications



DEVICE SPECIFICATIONS[1,2]	90-100 µm emitter width	
	1.6W 100 µm	3.2W 90 µm
Optical Output Power (W) (unlensed)	1.6	3.5
Optical Output Power (W) (lensed)	1.6	3.5
Emitter Width (µm)	100	100
Centroid Wavelength Available[3] (nm)	780 to 830	780 to 830
Centroid Wavelength, Standard (nm) (at 25°C)	808 ±3	808 ±3
Spectral Width, Standard (nm)	<3	<3
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28
Polarization	TM	TE
Fast Axis Divergence (degrees) (unlensed) (FWHM)	31	29
Fast Axis Divergence (degrees) (lensed) (FWHM)	<4	<4
Slow Axis Divergence (degrees) (FWHM)	<10	<11
Threshold Current (A) (typical)	0.3	0.5
Operating Current (A)	<2.0 (1.7 typical)	<3.5 (3.0 typical)
Operating Voltage (V)	<2.0	<2.0
Operating Temperature[4] (°C)	25	25
Operating Temperature Range (°C)	15 to 40	15 to 40
Storage Temperature Range (°C)	-40 to +60	-40 to +60

1 Specifications listed here apply at beginning of life. Operating current at end of life is 120% the operating current at beginning of life.
2 Please consult the factory for any requirements not listed, including the following options:
- Centroid wavelength and spectral width requirements other than listed here.
- Optical output powers other than listed here.
- Emitter aperture widths other than listed here.
3 Contact factory for availability.
4 Operating temperature is measured at the base of the package. The recommended operating temperature range is 15-40°C. Specifications listed here apply at 25°C.

OPERATION NOTES:

ESD precautions must be taken when handling unit.

Negative current transients greater than 25 µA and/or reverse voltages >3V can destroy the unit.

Unit requires an adequate heat sink. Failure to supply an adequate heat sink will destroy the unit.

A dry environment should be provided when storing or operating a device with an open diode laser facet at temperatures below the ambient dew point. Failure to do so will cause condensation on the unit and can destroy it.

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Superior Reliability & Performance

DEVICE SPECIFICATIONS[1,2]	140-150 µm emitter width	
	2.5W 150 µm	5W 140 µm
Optical Output Power (W) (unlensed)	2.5	5
Optical Output Power (W) (lensed)	2.5	5
Emitter Width (µm)	150	140
Centroid Wavelength Available[3] (nm)	780 to 830	780 to 830
Centroid Wavelength, Standard (nm) (at 25°C)	808 ±3	808 ±3
Spectral Width, Standard (nm)	<3	<3
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28
Polarization	TM	TE
Fast Axis Divergence (degrees) (unlensed) (FWHM)	31	29
Fast Axis Divergence (degrees) (lensed) (FWHM)	<4	<4
Slow Axis Divergence (degrees) (FWHM)	<10	<11
Threshold Current (A) (typical)	0.5	0.8
Operating Current (A)	<3.0 (2.8 typical)	<5.5 (4.8 typical)
Operating Voltage (V)	<2.0	<2.0
Operating Temperature[4] (°C)	25	25
Operating Temperature Range (°C)	15 to 40	15 to 40
Storage Temperature Range (°C)	-40 to +60	-40 to +60

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DEVICE SPECIFICATIONS[1,2]	200 µm emitter width
	7W 200 µm
Optical Output Power (W) (unlensed)	7
Optical Output Power (W) (lensed)	7
Emitter Width (µm)	200
Centroid Wavelength Available[3] (nm)	780 to 830
Centroid Wavelength, Standard (nm) (at 25°C)	808 ±3
Spectral Width, Standard (nm)	<3
Wavelength Temperature Coefficient (nm/°C)	0.28
Polarization	TE
Fast Axis Divergence (degrees) (unlensed) (FWHM)	29
Fast Axis Divergence (degrees) (lensed) (FWHM)	<4
Slow Axis Divergence (degrees) (FWHM)	<11
Threshold Current (A) (typical)	1.1
Operating Current (A)	<8.5 (8.0 typical)
Operating Voltage (V)	<2.0
Operating Temperature[4] (°C)	25
Operating Temperature Range (°C)	15 to 40
Storage Temperature Range (°C)	-40 to +60

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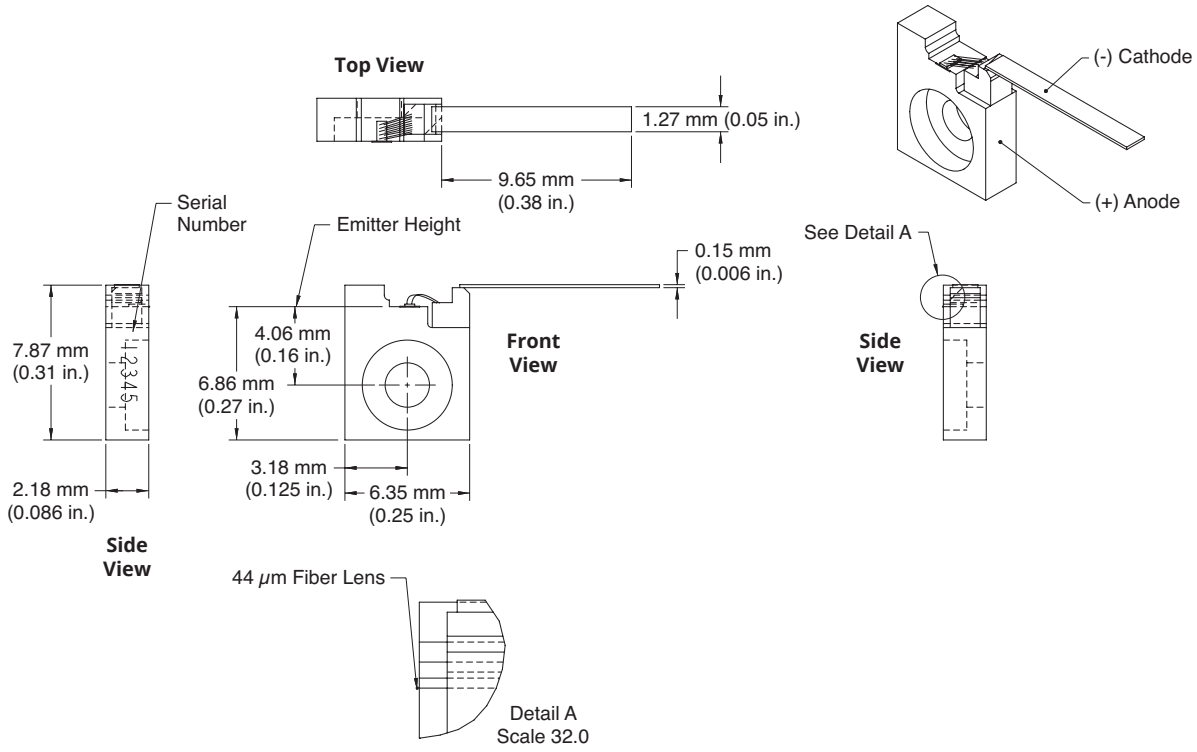
MECHANICAL SPECIFICATIONS

780 nm to 830 nm Lensed C-Mount



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