



# Conduction-Cooled Bar Packages (CCPs), 965-985 nm

High Power Single-Bar Packages for Pumping and Direct-Diode Applications

Based on Coherent's high performance AlGaAs technology, Coherent 965-985 nm conduction cooled laser bar packages (CCPs) provide world-class performance and reliability. Standard options include a 60W 10% fill factor bar and an 80W 18% fill factor bar, both rated to >20k hrs lifetime. Coherent's PulseLife™ technology option, based on AuSn telecom-grade solder, is available for applications requiring hard-pulsed operation or high temperatures. Low smile configurations are available upon request. Specifications and options—including power, wavelength, and optical delivery—can be tailored to your demands.

Please contact Coherent to discuss your unique requirements.



Superior Reliability & Performance

## Conduction-Cooled Bar Packages, 965-985 nm Features:

- High performance AlGaAs technology for highest reliability and lifetime
- PulseLife technology option for hard pulsed operation
- Up to 80W from an 18% fill factor bar
- Up to 60W from an 10% fill factor bar
- Low smile options available
- Lifetime >20,000 hours
- ROHS compliant

## Conduction-Cooled Bar Packages, 965-985 nm Applications:

- Materials Processing
- Laser Pumping
- Medical
- Illumination

[www.Coherent.com/CCP965-985](http://www.Coherent.com/CCP965-985)

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## Device Specifications<sup>1,2,3,4,5</sup>

	60W 10FF	80W 18FF
Intended Operation Mode	Hard pulsed, CW, or QCW	Hard pulsed, CW, or QCW
Optical Output Power (W)	60	80
Fill Factor (%)	10	18
Number of Emitters	10	19
Emitter Width (µm)	100	90
Emitter-to-Emitter Pitch (µm)	1000	500
Centroid Wavelength Available <sup>6</sup> (nm)	965 to 985	965 to 985
Centroid Wavelength, Standard (nm)(at 25°C)	975 ±10	975 ±10
Spectral Width, Standard (nm)(FWHM)	<10	<10
Wavelength Temperature Coefficient (nm/°C)	0.4	0.4
Polarization	TE	TE
Fast Axis Divergence (degrees)(unlensed)(FWHM)	31	31
Fast Axis Divergence (degrees)(lensed)(FWHM)	<1	<1
Slow Axis Divergence (degrees)(FWHM)	<10	<10
Threshold Current (A)	5 typical	8 typical
Operating Current (A)	<70 (62 typical)	<100 (90 typical)
Operating Voltage (V)	<1.7 (1.5 typical)	<1.7 (1.5 typical)
Operating Temperature <sup>7</sup>	25°C	25°C
Operating Temperature Range	15 to 35°C	15 to 35°C
Storage Temperature Range	-40 to +60°C	-40 to +60°C

<sup>1</sup> Specifications listed here are at beginning of life. Operating current at end of life is 120% the operating current at beginning of life.

<sup>2</sup> CW operation refers to an operating mode in which the diode lases continuously for multiple minutes at a time or longer

<sup>3</sup> QCW (quasi-continuous wave) operation refers to an operating mode in which the diode lases only in very short pulses, i.e., <1 ms long, typically at repetition rates of several Hz to kHz.

<sup>4</sup> Hard pulsed operation refers to an operating mode in which the diode is repeatedly turned on and off - full current to zero current - with pulsewidths longer than several milliseconds.

<sup>5</sup> Please consult the factory for any needs not listed here, including the following options:

- Centroid wavelength and spectral width requirements other than listed here.
- Optical output powers other than listed here.
- Low smile options.

<sup>6</sup> Contact factory for availability.

<sup>7</sup> Operating temperature is measured at the base of the package. The recommended operating temperature range is 15-35°C.

## Operation Notes

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

Indium foil should be used between base of diode and heatsink to ensure good thermal contact.

Torque applied to mounting screws should be controlled carefully, using a torque wrench. For 6-32 mounting screws, use 8 in-lbs (with Indium foil).

For M4 mounting screws, use 9 in-lbs (with Indium foil).

ESD precautions must be taken when handling unit.

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

Operation in excess of rated power will accelerate device aging.

Operation at higher temperatures will accelerate device aging, increase threshold current, and lower the slope efficiency.

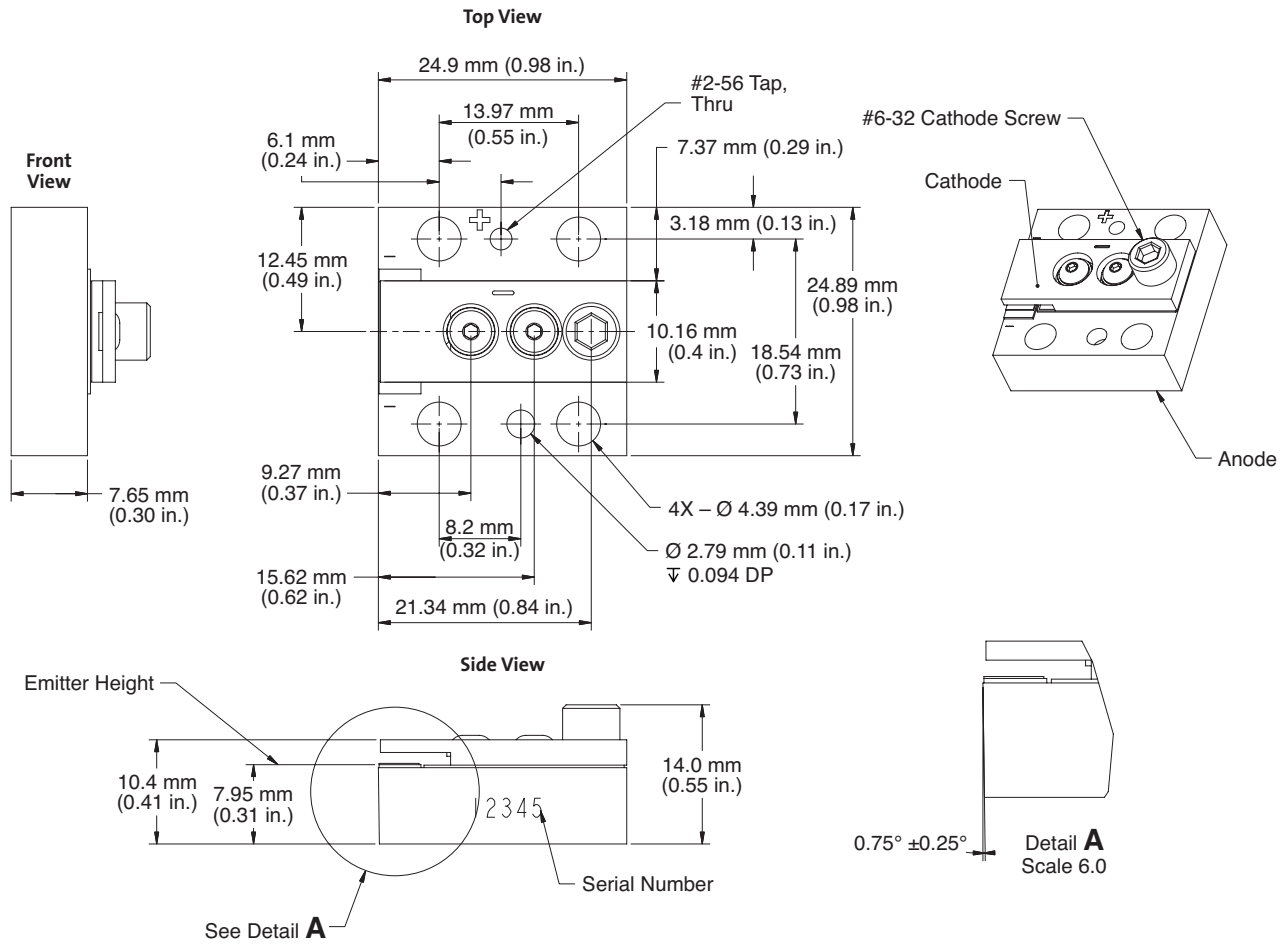
Care should be taken to avoid back-reflections into the device. Failure to do so can destroy the unit.

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## Mechanical Specifications

### 4 mm HCCP

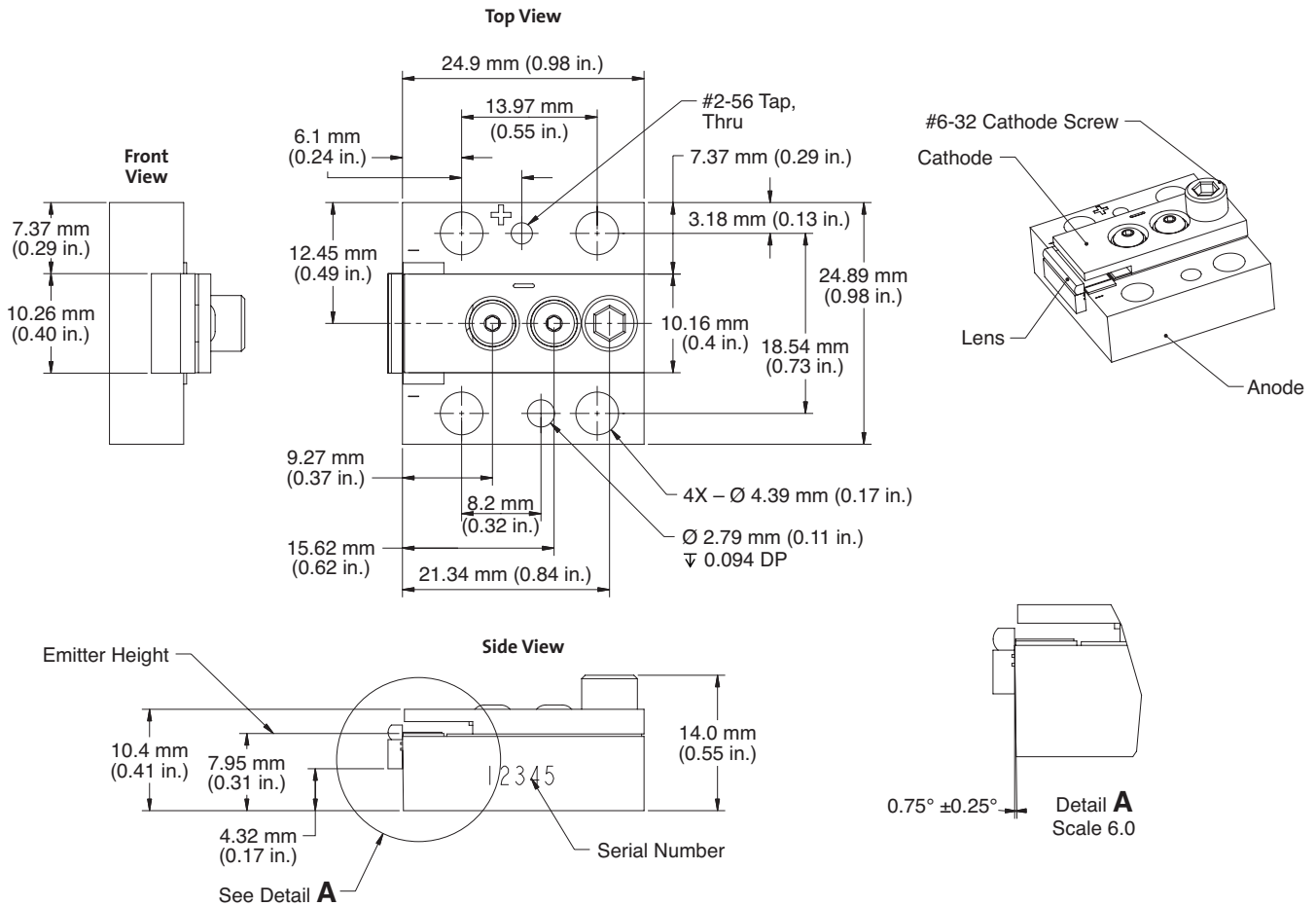


# Conduction-Cooled Bar Packages (CCPs), 965-985 nm

High Power Single-Bar Packages for Pumping and Direct-Diode Applications

## Mechanical Specifications

### 4 mm HCCP, Lensed



www.Coherent.com

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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Conduction-Cooled Bar Packages. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.