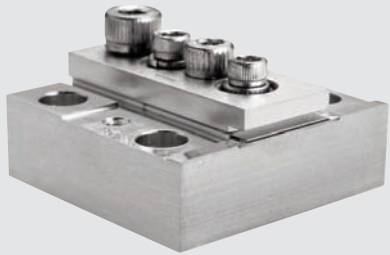




780-830 nm CCP

Conduction-Cooled Single Bar Package

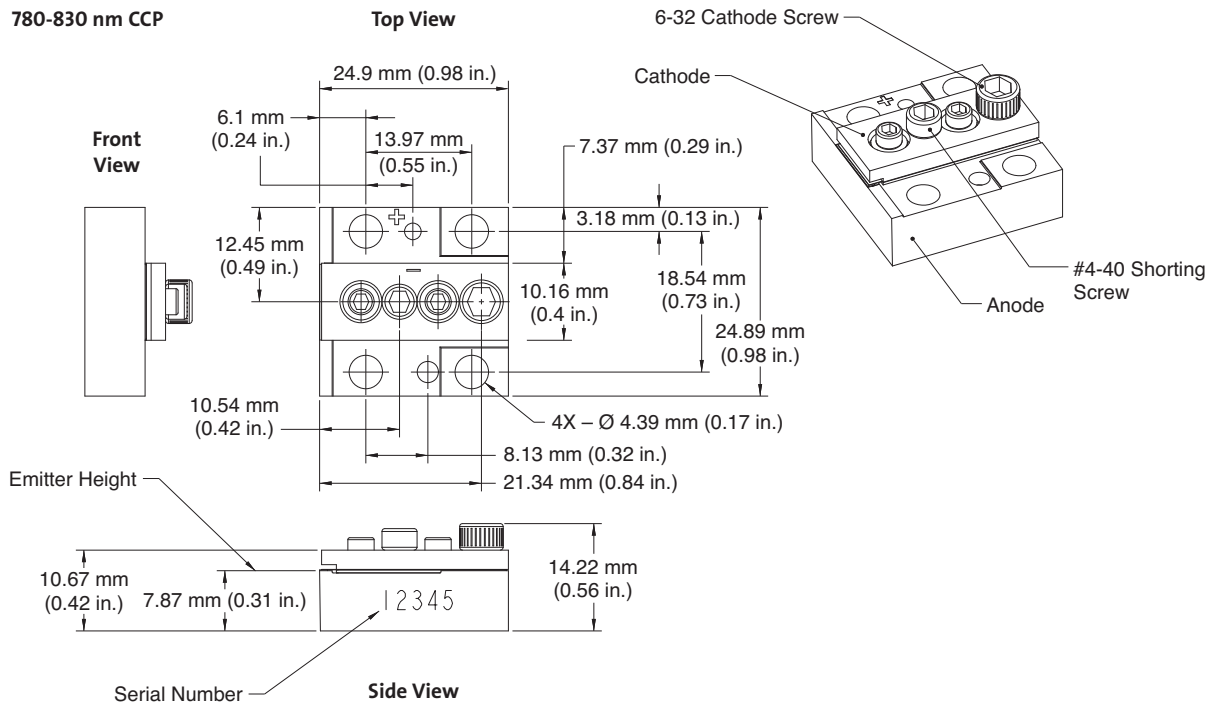


Features

- Unique AAA™ (Aluminum-free Active Area) design for highest reliability and lifetime (>20,000 hours)
- PulseLife™ technology option available for hard-pulsed operation (>20,000 hours, 1 sec on/1 sec off operation)
- Broad range of pump wavelengths
- Low divergence and lensing options available
- High temperature operation option available (up to 75°C)
- Low smile options available

Mechanical Specifications

780-830 nm CCP



Superior Reliability & Performance

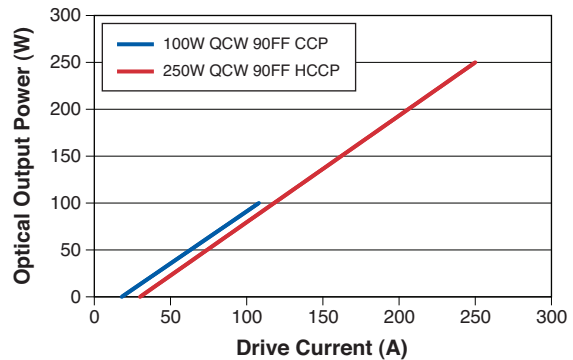
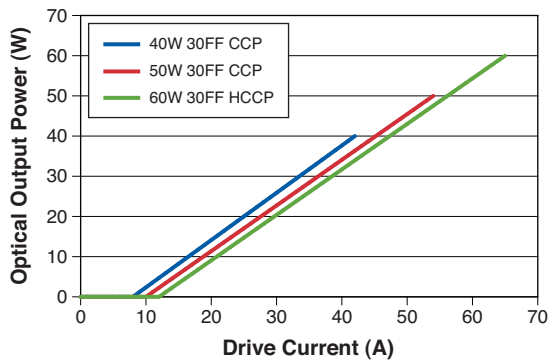
780-830 nm CCP

Conduction-Cooled Single Bar Package

Device Specifications

Description	40W 30FF	50W 30FF	50W 30FF PulseLife™	50W 50FF
Intended Operation Mode	CW or QCW	CW or QCW	CW, QCW, or Hard-Pulsed	CW or QCW
Optical Output Power (W)	40	50	50	50
Power if Lensed (W)	36	45	-	45
Center Wavelength (nm) (standard options, at 25°C)	808 ±3 810 ±10	808 ±3 810 ±10	825±5	808 ±3 810 ±10
Wavelength Temp. Coefficient (nm/°C)	0.28			
Spectral Width (nm)	<3 <5 (810 nm)	<3 <5 (810 nm)	-	<3 <5 (810 nm)
Fill Factor (%)	30	30	30	50
Number of Emitters	19	19	19	49
Stripe Width (µm)	150	150	150	100
Polarization	TM			
Threshold Current (A)	8 (typ.)	10 (typ.)	-	12 (typ.)
Operating Current (A)	<46 (42 typ.)	<60 (54 typ.)	<65	<62 (54 typ.)
Operating Voltage (V)	<2.0 (1.8 typ.)	<2.0 (1.8V typ.)	<2.0	<1.9 (1.8 typ.)
Fast Axis Divergence (°)(FWHM)	<35			
Fast Axis Divergence if Lensed (°)(FWHM)	<1	<1	-	<1
Slow Axis Divergence (°)(FWHM)	<10			
Recommended Operating Temp. (°C)	25			
Recommended Operating Temp. Range (°C)	15 to 35			
Storage Temp. Range (°C)	-40 to +60			

Typical 780-830 nm P-I Plots



780-830 nm CCP

Conduction-Cooled Single Bar Package

Device Specifications

Description	60W 30FF PulseLife™	100W 90FF	250W 90FF PulseLife™
Intended Operation Mode	CW, QCW, or Hard-Pulsed	QCW only	QCW only
Optical Output Power (W)	60	100	250
Power if Lensed (W)	-	90	-
Center Wavelength (nm) (standard options, at 25°C)	808±3 810±10	808 ±3	808±3
Wavelength Temp. Coefficient (nm/°C)	0.28	0.28	0.28
Spectral Width (nm)	<3 <5 (810 nm)	<3	<3
Fill Factor (%)	30	90	90
Number of Emitters	19	60	60
Stripe Width (µm)		150	
Polarization	TE	TM	TE
Threshold Current (A)	11.5 (typ.)	18 (typ.)	-
Operating Current (A)	<73 (65 typ.)	<120 (108 typ.)	<265 (250 typ.)
Operating Voltage (V)	<2.2	<2.1 (1.8 typ.)	<2.4
Pulse Width	-	≤1 ms	≤500 µs
Duty Cycle (%)	-	≤20	≤10
Fast Axis Divergence (°)(FWHM)		<35	
Fast Axis Divergence if Lensed (°)(FWHM)	-	<1	-
Slow Axis Divergence (°)(FWHM)	<10	<12	<12
Recommended Operating Temp. (°C)		25	
Recommended Operating Temp. Range (°C)		15 to 35	
Storage Temp. Range (°C)		-40 to +60	

Notes

- CW operation refers to an operating mode in which the diode is left on continuously for extended periods of time, typically 20 minutes or more at a time.
- QCW (quasi-continuous wave) operation refers to a high repetition rate, short-pulse mode of operation (e.g., 200 µs pulses, 1 kHz). QCW products listed here are rated up to 20% duty cycle and pulses <1 ms long.
- Hard-pulsed operation refers to an operation mode in which the diode is repeatedly turned on and off – full current to zero current – with pulses longer than several milliseconds (e.g., 1 second on/1 second off operation).
- Please consult the factory for any requirements not listed here, including the following options which are available on a case by case basis:
 - Other wavelengths and spectral specifications.
 - Higher or lower operating powers.
 - Higher and/or lower operating temperatures.
 - Higher and/or lower storage temperatures.
 - Lensing options.
 - Low-divergence bars (20 to 26° FWHM instead of standard ~31° FWHM).
 - Low smile options.

Operating Notes

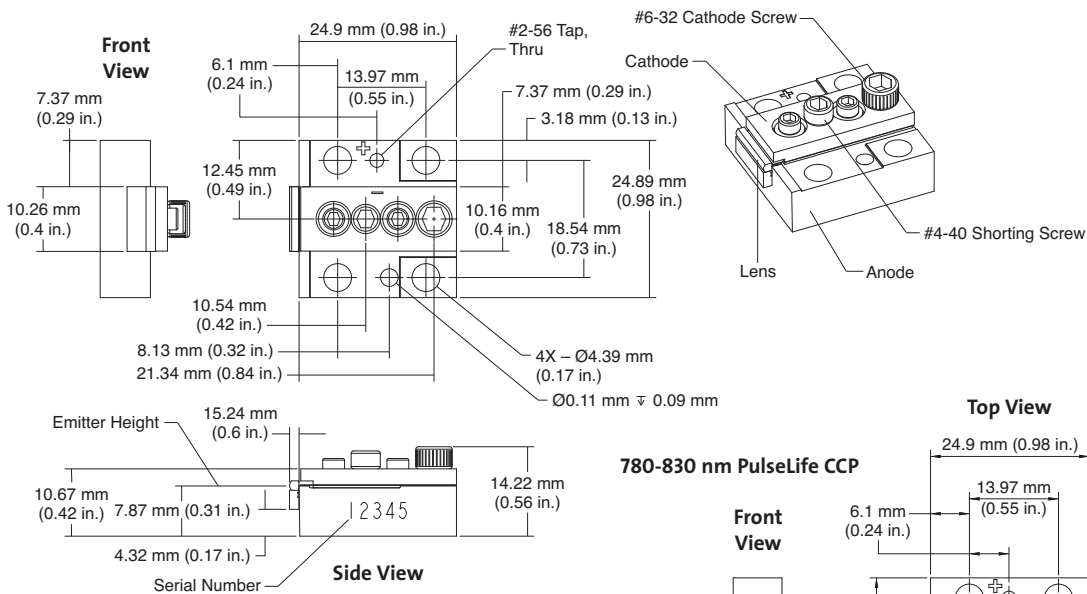
- Unit requires an adequate heat sink. Failure to supply an adequate heat sink will destroy the unit.
- Indium foil should be used between base of diode and heatsink to ensure good thermal contact.
- Mounting torque 8 in.-lbs. (with Indium foil).
- ESD precautions must be taken when handling unit.
- 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.
- Output powers in excess of specification will accelerate device aging.
- Operation at higher temperatures will accelerate device aging, increase threshold current, and lower slope efficiency.
- Care should be taken to avoid back-reflections into the device. Failure to do so can destroy the unit.

780-830 nm CCP

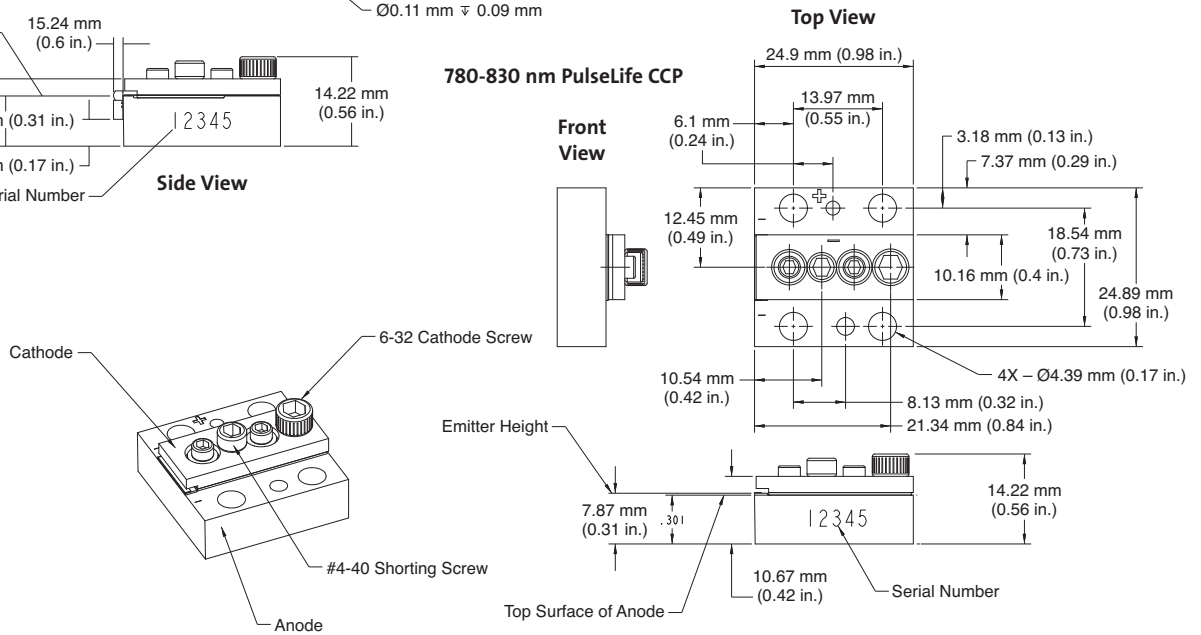
Conduction-Cooled Single Bar Package

Mechanical Specifications

780-830 nm Lensed CCP



780-830 nm PulseLife CCP



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 CCPs. 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.



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