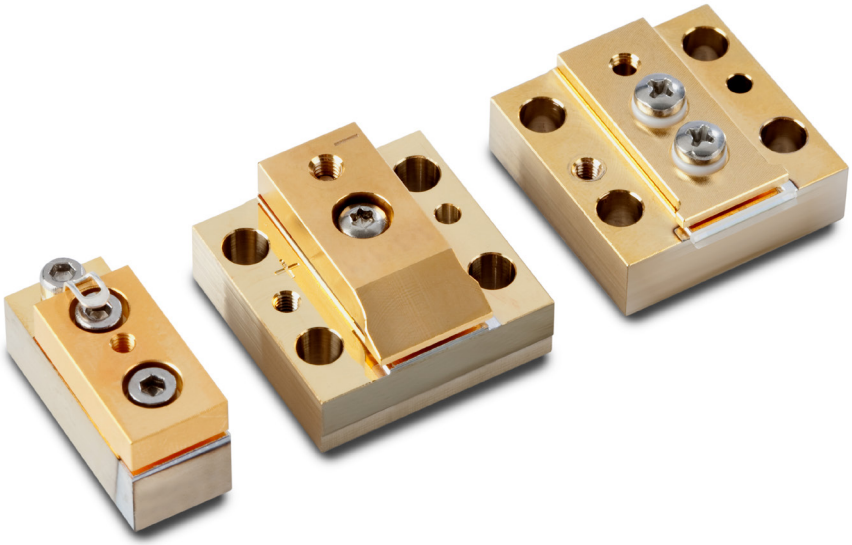
Diode Laser Components

SINGLE BAR

675 nm, 20 W, Conduction-Cooled, CW

Conduction-cooled single bars are well introduced in the market and are an industry standard in terms of size and footprint. At Coherent, these laser bars are available in a very wide range of wavelengths and powers, with optional beam shaping such as fast-axis collimation, both-axis collimation, or even further focused to a defined spot size. Also available are options such as spectral locking and line narrowing, using Volume Bragg Gratings (VBG).



FEATURES

- Industry standard size and footprint
- High reliability and consistency
- Hard solder available for harsh drive conditions
- Low smile
- Optional beam shaping
- Optional spectral locking and line narrowing
- Narrow heat sink variant available for side-by-side placement
- Variants with different beam height on request

APPLICATIONS

- Pumping of solid-state lasers
- Materials processing and annealing
- Medical
- Graphic arts

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Device specification

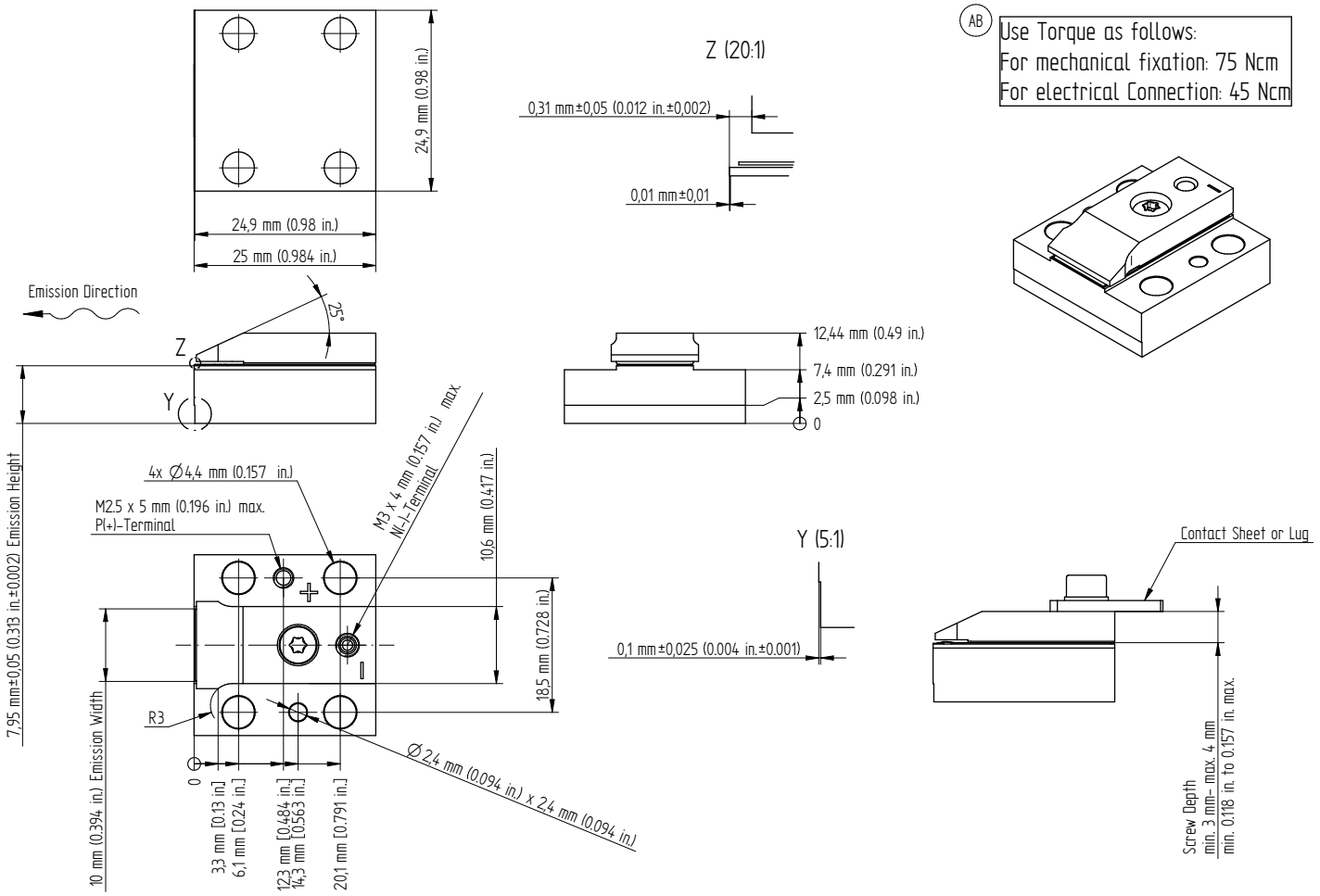
Optical Parameters[1]	M-Type
Center Wavelength Range[3] (nm)	675
Center Wavelength Tolerance[3] (nm)	±5
Output Power[2] (W)	20
Number of Emitters	19
Emitter Size (µm)	100
Fill Factor (%)	20
Operating Condition	CW
Spectral Width (FWHM) (nm)	≤2.0
Slope Efficiency (W/A)	≥1.20
Fast-Axis Divergence without Optics (degree)	≤65
Fast-Axis Divergence with Fast-Axis Collimation (mrad)	≤8
Slow-Axis Divergence (degree)	≤10
Wavelength Temp. Coefficient (nm/°C)	~0.16
Beam Geometry after FAC Lens (mm x mm)	~0.8 x 10
Electrical Parameters[1]	
Power Conversion Efficiency (%)	≥35
Threshold Current (I_{TH}) (A)	≤12
Operating Current (I_{OP}) (A)	≤30
Operating Voltage (V_{OP}) (V)	≤2.20
Thermal Parameters[1]	
Operating Temperature Range[3,4] (°C)	+20 to +30
Storage Temperature Range[4] (°C)	0 to +55
Recommended Heat Sink Capacity (W)	60

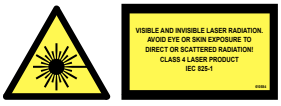
Notes:
1. Data at 20°C cold plate temperature.
2. Reduced lifetime if used above nominal operating conditions.
3. Others available upon request.
4. A non-condensing environment is required for storage and operation below the ambient dew point.

Mechanical specifications

Conduction-Cooled, CW
M-Type Single Bar Diode Laser Module

M10.2N





sales@coherent.com
www.coherent.com