

SINGLE BAR DIODE LASER

**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-soldered 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

Device Specification

Optical Parameters ¹		M10.2-Type
Center Wavelength Range ³ (nm)		675
Center Wavelength Tolerance ³ (nm)		±5
Output Power ² (W)		20
Number of Emitters		40
Emitter Size (μm)		40
Fill Factor (%)		20
Operating Condition		CW
Spectral Width (FWHM) (nm)		≤2
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
Duty Cycle ⁵ (%)		100
Pulse Length ⁵ (μsec)		-
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
Part Number(s)		
		PN 2216725

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.
5. Custom pulse length / duty cycles on request.

MECHANICAL SPECIFICATIONS

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

M10.2N

