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monocrom
LASER DIODE DEVICES

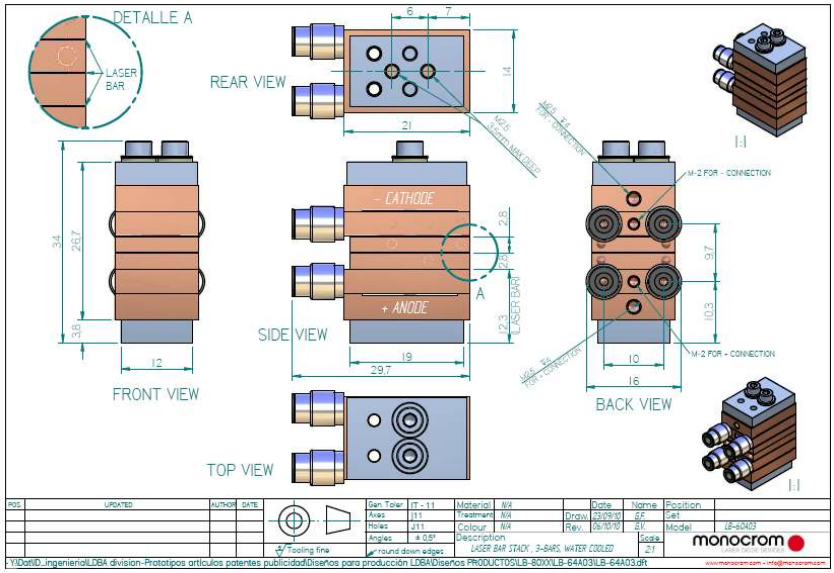
info@monocrom.com

C. Vilanoveta, 6
08800 Vilanova i la Geltrú
Barcelona | Spain

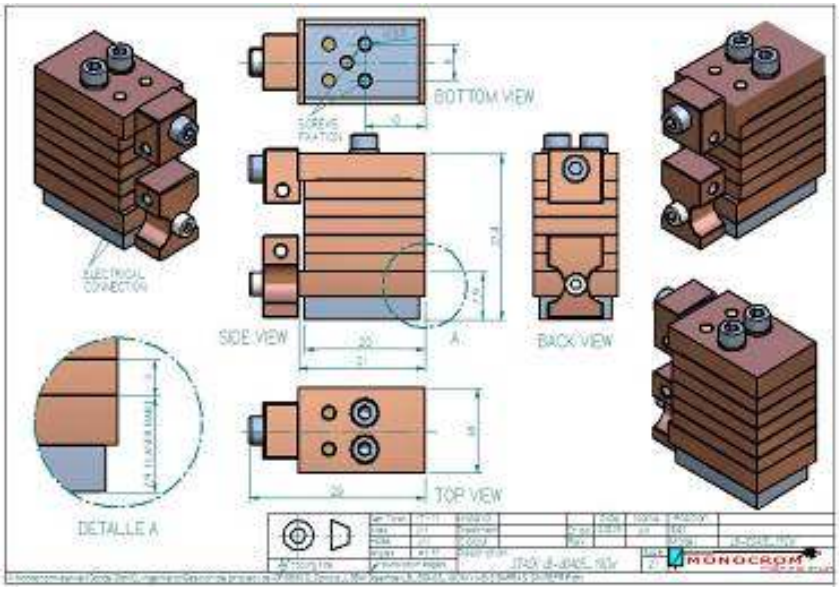
Telf.: +34 938 149 450
Fax.: +34 938 143 767
www.monocrom.com

| | |
|---|---|
| Business Division | LDBA **Laser Diode Bar Assemblies** |
| Product | **LB-64XYY-19MCW series** |
| Description | **Laser Bar Assembly for CW and QCW.**<br>**Conductive or Water cooling system. No micro-channels are used.**<br>**Open packaging.**<br>**With or without collimation, from standard to customised designs.** |
| Main Features | **Solder-free diode bar mounting technology, exclusive from MONOCROM S.L.**<br>**The main features of the solder free concept of the clamp-mounting technology are:**<br>● **Long lifetime,** due to the absence of the mechanical stress caused by the soldering process at high temperature.<br>● **Minimum "smile",** less than 0.5 mm.<br>● **High reliability in pulsed conditions,** since the clamped bars do no suffer the same fatigue effect than the soldered ones due to the thermal cycle.<br>● **Small thermal resistances,** owing to the reduction of the contact resistance between electrodes and laser bar. No micro channels are needed to reach low thermal resistances.<br>● **Large storage temperature interval,** tested from –60ºC to + 85ºC.<br>● Monocrom active mounting uses millimetre-water channels instead of microchannels. NORMAL WATER CAN BE USED FOR COOLING. No problems of obstruction or channel degradation exist. |
| Main Applications | Industrial:<br>● **Laser Projectors**<br>● **Illumination**<br>● **Imaging processing**<br>Medical:<br>● **Photodynamic Therapy**<br>● **Skin Treatments**<br>● **Aesthetic** |
| Picture(s) |  |

Outline




**(Example of a three-bar stack, water cooling)**




**(Example of a five-bar stack, conductive cooling)**

*Ordering Information:*

XSoptix
800 Village Walk #316
Guilford, CT 06437
Ph: 203-401-8093
Email orders to: sales@xsoptix.com
Fax orders to: 800-878-7282

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## LB-64XYY-19MCW | GENERAL TECH SPECIFICATIONS

| | |
|---|---|
| **Product number (according to type of diode)** | 640 nm, X: A-Water or P-Conductive cooling,<br>YY: number of bars, from 02 to 10, 19: number if emitters<br>MCW: QCW or CW<br>with or without fast and/or slow axis collimation.<br>**LB-64ZBB-19YCW** |
| **Number of emitters in the laser bar** | 19 |
| **Laser Bar geometry** | 0,42 cm wide 20% fill factor<br>emitter size: 40 μm<br>emitter spacing: 200 μm |
| **Center wavelength** | 640 ± 3nm |
| **Max Power, Pop(1,2)** | 8W-CW x Nº of bars<br>15W-QCW x Nº of bars |
| **Operation current (for Max. power), Iop** | <11A-CW<br><18A-QCW |
| **Pulse length, QCW(1)** | Up to hundred of milliseconds |
| **Duty cycle (DC), QCW(1)** | <50 % |
| **Threshold current, typical(1)** | 3 A |
| **Wavelength shift @ Pmax** | <10 nm |
| **Wavelength Temp.Coefficient** | 0,27-0,3 nm/ºC |
| **Smile** | < +/- 0,3 μm |
| **Voltage @ Iop** | (1,8-2,5 V)* Nº of bars ( Base to + voltage ) |
| **ΔV/I** | (10 mV/A per bar) * Nº of bars |
| **Spot size after optics** | Depends on number of bars and type of cooling |
| **Beam divergence with FAC collimation (95% power content)** | FA(3-6mrad)<br>SA <13° (3) |
| **Cooling** | Conductive or with water channels (TAP water (distilled water with 5% ethylenglycol is recomm.) |
| **Water pressure** | 2-3 bars |
| **Water flow** | >0,3 l/min |
| **Operation temperature (2)** | <25ºC.<br>If wet atmosphere, T>15ºC is recommended |
| **Size WxLxH (mm)** | Depends on number of bars and type of cooling |
| **Electrical connections** | Fast connectors (Pin ∅2x10mm), or threads M2 |
| **Water connections** | Water flow outlet for Ø3mm tube |
| **Water tubes** | Rigid tube Øint.2mm / Øext.3mm |
| **Laser class product (EN-60825)** | 4 |
| **Expected lifetime** | 10.000 hours CW<br>$10^9$ shoots QCW tp<1ms<br>$10^8$ shoots QCW tp>1ms |

**Device sensitive to ESD & dust contamination => Handling under clean area conditions advised.**

Parametrical and dimensional specifications can be modified upon request.

(1) Parameters required by customer.
(2) Optic Power Pop is specified at 20ºC. According to the laser bar qualification, the power decreases 5% with T.
(3) According to Laser bar specification