

# LBX-642

**Laser Diode**

## Optical characteristics \*

<b>Emission wavelength</b>	642 nm (-7/+5 nm)	
<b>Linewidth</b>	≤ 1.2 nm	
<b>Output power</b>	<b>Free space</b>	<b>Fiber coupled</b>
	140 mW	95 mW
<b>Control mode(s)</b>	Automatic Power Control (APC) Automatic Current Control (ACC)	
<b>Power stability</b> over 8 hours and within ±3k	± 0.5%	
<b>Power adjustment range</b>	0 - 100%	
<b>Optical noise</b> %RMS, 10Hz - 20 MHz bandwidth	≤ 0.2%	

### — Transverse singlemode free-space beam

<b>Beam waist diameter (typ)</b> at 1/e <sup>2</sup> , 50mm from output aperture	1 mm
<b>Beam divergence</b> at 1/e <sup>2</sup> , full angle, in far field	≤ 1.3 mrad
<b>Beam quality factor (M<sup>2</sup>)</b>	≤ 1.25
<b>Beam circularity</b> , in far field	≥ 90%
<b>Polarization extinction ratio (typ)</b>	100:1
<b>Polarization state</b>	linear, vertical at +/-5°

### — Modulation functions

#### Digital Modulation

<b>Max modulation frequency</b>	150 MHz
<b>Rise/fall time, 10%-90%</b>	≤ 2 ns

#### Analog Modulation

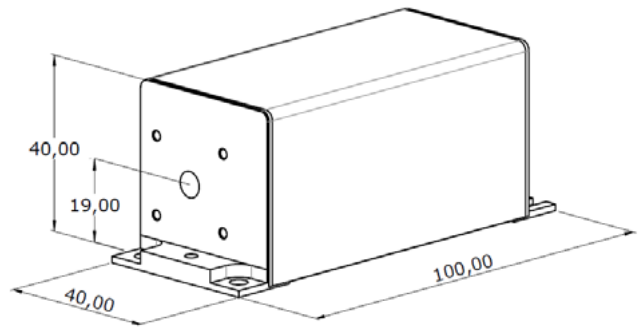
<b>Bandwidth</b> 3dB cut-off frequency, ACC mode	≥ 3 MHz
<b>Rise/fall time, 10%-90%</b>	≤ 150 ns

## Fiber coupling option

	<b>SM and PM Fiber</b>	<b>MM Fiber</b> (50 μm, 0.22 NA)
<b>Coupling Efficiency</b>	≥ 70%	≥ 80%
<b>Polarization Ratio</b> (PMF only)	100 : 1	n/a
<b>Fiber Output Connector</b>	FC-APC FC/PC, FCP8 on demand	FC-APC
<b>Power stability</b> over 8 hours and within ±3k	±2%	±2%
<b>Fiber length</b>	2.0 m	2.0 m



## Mechanical drawings



### — Plug and Play version provided with :

- ControlBoxx
- Power supply

## Options

- Electro-mechanical shutter
- Heat sink
- Clean-up filter

## General specifications

	<b>Plug and Play version</b>	<b>OEM version</b>
<b>Compliance</b>	CE FDA 21 CFR 1040.10/1040.11	FDA 21 CFR 1040.10 / 1040.11
<b>Operating temperature</b>	10 - 38°C ambient air with optional heat sink	10 - 50°C baseplate
<b>Power consumption</b>	≤ 25 W	≤ 10 W
<b>Storage temperature</b>	0 to 60°C	
<b>Supply voltage</b>	100 to 240 VAC external power supply	5 to 12 VDC
<b>Warm-up time</b>	≤ 2 minutes	
<b>Interfaces</b>	USB, RS-232, dedicated electronic interface	

Warranty : 12 months from shipment date

\*Specifications at nominal power



## CONTACT US

Oxxius S.A  
4 rue Louis de Broglie  
F-22300 Lannion, France

Phone : +33 296 48 70 28  
sales@oxxius.com  
www.oxxius.com