

# LBX-785

## Laser Diode

### Optical characteristics \*

<b>Emission wavelength</b>	785 nm ( $\pm 10$ nm)	
<b>Linewidth</b>	$\leq 1.2$ nm	
<b>Output power</b>	<b>Free space</b>	<b>Fiber coupled</b>
	100 mW	70 mW
	250 mW	175 mW
	350 mW	240 mW
<b>Control mode(s)</b>	Automatic Power Control (APC) Automatic Current Control (ACC)	
<b>Power stability</b> over 8 hours and within $\pm 3k$	$\pm 0.5\%$ (100mW) $\pm 1\%$ (250, 350 mW)	
<b>Power adjustment range</b>	0 - 100%	
<b>Optical noise</b> %RMS, 10Hz - 2 MHz bandwidth	$\leq 0.2\%$	

### — Transverse singlemode free-space beam

<b>Beam waist diameter (typ)</b> at $1/e^2$ , 50mm from output aperture	0.7 mm (100mW) 0.5 mm (250, 350 mW)
<b>Beam divergence</b> at $1/e^2$ , full angle, in far field	$\leq 1.7$ mrad (100mW) $\leq 2.3$ mrad (250, 350 mW)
<b>Beam quality factor (<math>M^2</math>)</b>	$\leq 1.25$
<b>Beam circularity,</b> in far field	$\geq 90\%$
<b>Polarization extinction ratio (typ)</b>	100:1 not specified for LBX-785-250/350
<b>Polarization state</b>	linear, vertical at $\pm 5^\circ$ not specified for LBX-785-250/350

### — Modulation functions

#### Digital Modulation

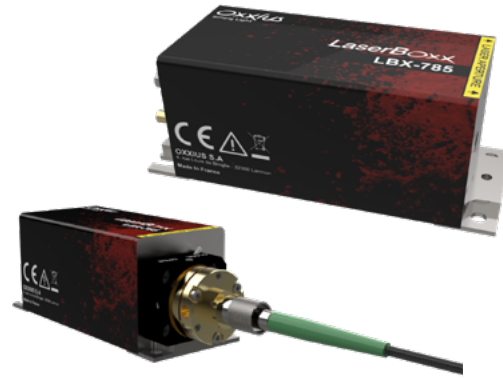
<b>Max modulation frequency</b>	150 MHz
<b>Rise/fall time, 10%-90%</b>	$\leq 2$ ns

#### Analog Modulation

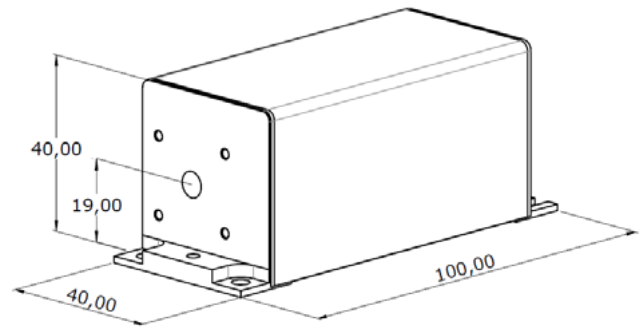
<b>Bandwidth</b> 3dB cut-off frequency, ACC mode	$\geq 3$ MHz
<b>Rise/fall time, 10%-90%</b>	$\leq 150$ ns

### Fiber coupling option

	SM and PM Fiber	MM Fiber (50 $\mu$ m, 0.22 NA)
<b>Coupling Efficiency</b>	$\geq 70\%$	$\geq 80\%$
<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 $\pm 3k$	$\pm 2\%$	$\pm 2\%$
<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

	Plug and Play version	OEM version
<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>	$\leq 25$ W	$\leq 10$ 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>	$\leq 2$ minutes	
<b>Interfaces</b>	USB, RS-232, dedicated electronic interface	

Warranty : 12 months from shipment date

\*Specifications at nominal power



AVOID EXPOSURE TO BEAM

### 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