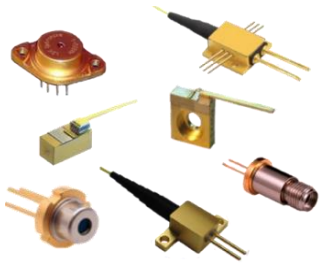
LDX Optronics Inc.

LDX-3110-735

- Wavelength: 735+/-5 nm
- Output Power: Up to 1750mW free space / 1400mW fiber coupled
- High output power and high efficiency
- Proven reliability
- Custom packaging available
- Custom wavelengths and laser designs are available.



The LDX-3110-735 is a high-power laser diode chip. Designed for low divergence and high brightness, and offers proven reliability. This chip is used in a wide range of applications in the medical, industrial, research, and military markets.

These lasers are available in the following free space and fiber-coupled packages:
C-mount, B-mount, COS, 9mm, 9mm Isolated, 9mm Special, TO3, TO3-TEC, HHL, 9mm SMA, BFC-HHL (8-pin), FCP (2 Pin), HHLFC, and custom package options.

Device Specifications (Specified values are at rated power at 25° on a C-mount)

Parameter	LDX-3110-735	Units
Output Power	1,750	mW
Wavelength	735	+/-5 nm
Spectral Width	1.1	nm
Operating Temperature	25	°C
Aperture Size	100	um
Operating Current	2,170	mA
Threshold Current	680	mA
Slope Efficiency	1.20	W/A
Forward Voltage	1.9	V
Fast Axis Divergence	26	° (FWHM)
Slow Axis Divergence	6	° (FWHM)
Polarization	TM	N/A
Fiber Size HHL, BTF, FCP[1]	105 or 200	um
Min. Fiber Size 9mm SMA[2]	250	um
Expected Lifetime[3]	>10,000	Hours (EOL)[4]

Unless otherwise indicated, all values are nominal.

1. Other fiber diameters are available upon requested.
2. If minimum fiber size is used, a high power SMA connector is required.
3. Lifetime is greatly affected by Package type, Operating temperature, Thermal resistance, Operation (CW vs Off/On), and Packaging stress
4. End of Life (EOL) is defined as when the operating current must be increased by >20% to maintain the Beginning of Life (BOL) optical output power.

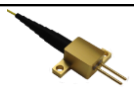
LDX follows a policy of continuous product improvement.
Specifications are subject to change without notice.

These components do not comply with the Federal Regulations (21 CFR Subchapter 1) as administered by the Center for Devices and Radiological health. Purchaser acknowledges that his/her products must comply with these regulations before they can be sold to a customer

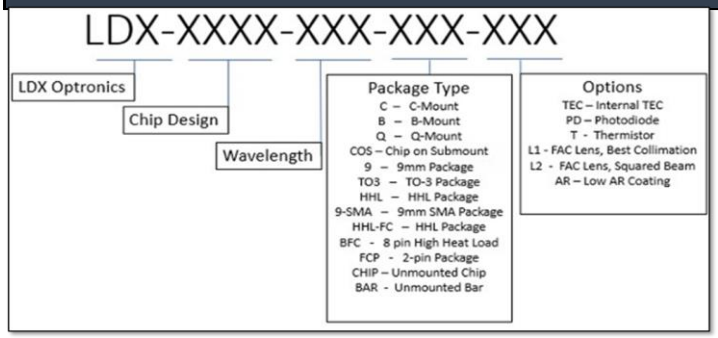
Free Space Package - Exposed Emitter				
Package		**Features**	**Options**	**Drawing**
C-Mount Package		Small footprint with screw mounting Material – Copper (OFHC) Fast-axis lensing	Fast-axis lensing	
B-Mount Package		Very small footprint Requires soldering to heatsink Material – Copper Tungsten (CuW)	Fast-axis lensing	
Chip-on-Submount		Very small footprint Requires soldering to heatsink Material – BeO	Fast-axis lensing	

Free Space Package - Hermetically Sealed Windowed Packages				
Package		**Features**	**Options**	**Drawing**
9mm Package		Industry-standard package Header material – Copper	Photodiode, Isolated package, Fast-axis lensing	
TO-3 Package		Mounting to heatsink with screws Header material – Copper	TEC, Thermistor, Photodiode, Fast-axis lensing	
HHL Package		Internal peltier cooler (TEC), thermistor, and photodiode Header material – Copper	Fast-axis lensing	

FAC Lensing Options:		
Best Collimation	L1	Less than 1° divergence in the fast axis direction.
Squared Beam FAC	L2	Matches the fast-axis to the slow-axis divergence.

Fiber Coupled Packages - Hermetically Sealed - >80% Coupling Efficency				
Package		**Features**	**Options**	**Drawing**
9mm SMA FC Package		Industry-standard package SMA connector for detachable fiber Header material – Copper	Photodiode, Isolated package	
8-Pin BFC Package		Built-in internal TEC and Photodiode Fiber pigtail with SMA connector Header material – Copper	Thermistor	
2-Pin FCP Package		Fiber pigtail with SMA connector Header material – Copper	none	
HHL-FC Package		Fiber pigtail with SMA connector Internal peltier cooler (TEC), thermistor, and photodiode Header material – Copper	none	

Part Numbering System



Part Number	Description
LDX-3115-680-9	Semiconductor Laser Diode, 680±3 nm, 1200mW, 150um emitter, 9mm Package
LDX-2405-690-BFC-105	Semiconductor Laser Diode, 690±3 nm, 400mW, 50um emitter, Pigtailed Fiber Coupled 8-pin BFC Package w/ >80% Output Power from Fiber, Includes 105um, 0.22NA, 1m long fiber pigtail with SMA connector
LDX-2410-645-B-L1	Semiconductor Laser Diode, 645±5 nm, 400mW, 100um emitter, B-mount w/ FAC Lensing, Best Collimation
LDX-2710-660-HHL-L2	Semiconductor Laser Diode, 660±3 nm, 750mW, 100um emitter, HHL Package w/ TEC, PD, Thermistor, FAC Lens, Squared Beam

For all handling and mounting precautions, see the LDX Catalog