BOX
Optronics Tech

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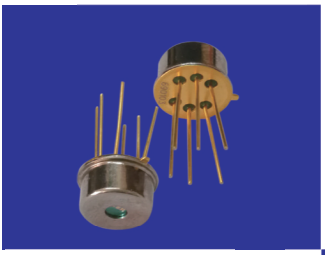
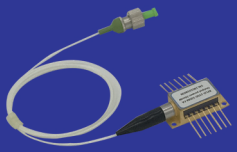




Product Manual

High Quality Optical Component Solutions for Optical Fiber Communication, Optical Sensor in BOX OPTRONICS

SHENZHEN BOX OPTRONICS TECHNOLOGY CO., LTD.

Company Profile

Box Optronics Technology Company, located in Shenzhen, China, is a company providing optical fiber modules, laser devices and customized optical products solutions, mainly engaged in optical fiber communications, optical fiber sensing field. have strong R & D, production and sales capabilities, as well as senior product R & D engineers.

Our company adopts international excellent process technology, has advanced production and test equipment, in the device coupling package, module design has the leading technology and cost control advantage, as well as the perfect quality assurance system, can guarantee to provide the high performance for the customers, Reliable quality optoelectronic products.

We will be dedicated to provide customers with better quality products and faster response. And to help our customers create greater value and grow with customers.

Mission: to assist customers, provide better product solutions, optimize industry cost;

Vision: Technological innovation, intelligent manufacturing, to achieve the leading brand of optoelectronic technology;

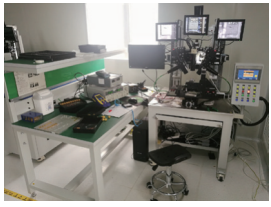
Value: Customer first, Service foremost, Credibility foundation, Win-win cooperation.

The main products of the company are:

1, Bandwidth light source, SLED light source; fiber amplifier module, ASE light source, bench-top laser light source

2. High power diode laser, CWDM laser, SLED laser, narrow linewidth laser, pump laser, coaxial fiber device.

3. Polarization-maintaining fiber device, high power fiber device, fiber grating, wavelength division multiplexing device and so on.



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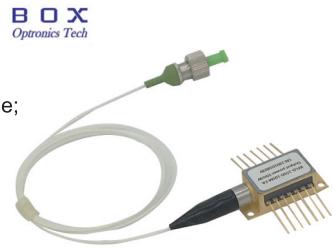
980nm Pump Laser Diode

1.Features:



- Kink-free operating power up to 600mW;
- 14PIN butterfly package with SM Hi1060 or PM fiber;
- Fiber Bragg grating stabilization, Wavelength selection available;
- Integrated thermoelectric cooler, thermistor, and monitor diode.

2.Applications:

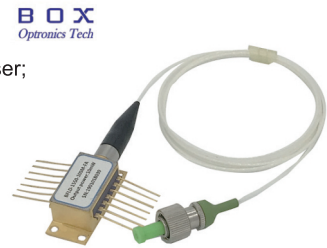
- Erbium doped fiber amplifiers(EDFA)&Optical sensor;
- Very long distance cable television(CATV) trunks.

3.Ordering Information:

BFLD	-XXX	-X	-XXX	-XX	-XX	-X
Name	Wavelength	FBG	Output powe	Fiber type	Connector	0/1
980nm Pump Laser	974: 974nm 976: 976nm	F: With N: Without	100: 100mW 400: 400mW ... 600: 600mW	SM : Single mode PM : Polarization maintaining	N0: Null(default) FA : FC/APC SA : SC/APC Other	0: Bare fiber 1: Loose tube

DFB Butterfly Laser Diode

1.Features:



- 10-100mW High output power;
- Multiquantum well (MQW) distributed-feedback (DFB) laser;
- Industry-standard 14PIN butterfly package;
- Built-in TEC and optical isolator.

2.Applications:

- LAN, WAN and metro networks;
- Fiber optic sensors;
- Laser sources&CATV systems.

3.Ordering Information:

BFLD	-XXXX	-XX	-XX	-XX
Name	Wavelength	Output power	Fiber type	Connector
DFB Butterfly Laser	1310: 1310nm 1550: 1550nm CWDM:1270-1650nm C:1528~1563nm	10: 10mW 20: 20mW: 40: 40mW 1H: 100mW	SM : Single mode PM : Polarization maintaining	FA: FC/APC SA: SC/APC Other

SLED Superluminescence Diode Laser

1.Features:

- Wavelength 850nm, 1310nm,1490nm,1550nm,1610nm
- Low Spectralripple, Broad bandwidth;
- Industry-standard 8PIN, 14PIN butterfly packages;
- Built-in optical isolator&Low polarization sensitivity.

2.Applications:

- Fiber optic gyroscopes&sensors&communications;
- Biomedical imaging device&Optical coherence topography.

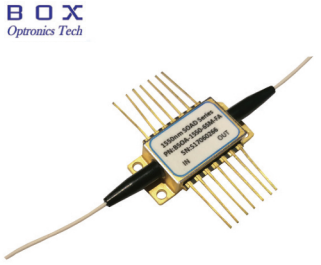
3.Ordering Information:

BFSLD	-XX	-XX	-XX	-XX
Name	Wavelength	Output power	Fiber type	Connector
SLED Diode	850: 850nm 1310: 1310nm 1550: 1550nm 1610: 1610nm	01: 1mW 05: 5mW 10: 10mW 15: 15mW Other	SM: Single mode PM: Polarization maintaining	FA: FC/APC SA: SC/APC Other

SOA Semiconductor Optical Amplifier Device

1.Features:

- Wide optical bandwidth;
- High saturation output power;
- Low polarization sensitivity&gain ripple and NF.;
- Built-in TEC and optical isolator;



2.Applications:

- Loss compensation for fiberoptic connection and switch;
- WDM fiberoptic networks;
- 100G fiberoptic data center.

3.Ordering Information:

BSOA	-XXXX	-XX	-XX	-XX
Name	Wavelength	Output power	Fiber type	Connector
SOA Amplifier	1310: 1310nm 1550: 1550nm	06: 6mW 10: 10mW	SM: Single mode PM: Polarization maintaining	FA: FC/APC SA: SC/APC Other

High Power Multimode Fiber Coupled Diode Laser

1.Features:

- High coupling efficiency;
- High brightness;
- Reliable Au/Sn bonding;
- RoHS Compliance.

2.Applications:

- Fiber laser pumping;
- Medical/Life and health sciences.

3.Ordering Information:

BLD	-XXX	-XX	-XX	-XX
Name	Wavelength	Output power	Fiber type	Connector
Diode Laser	808: 808nm 915: 915nm 940: 940nm 976: 976nm	04: 4W 10: 10W 20: 20W -- 3H: 300W	12: 0.12NA 15: 0.15NA 22: 0.22NA(default)	N0: Null(default) FA: FC/APC SMA: SMA905 Other

Integrated Tunable Laser Assembly (ITLA)

1.Features:

- Narrow linewidth laser output;
- Low power consumption;
- Excellent lasing frequency accuracy;
- Standard ITU grid wavelength tuning or continuously wavelength turning;
- Support ITLA module controlling and monitoring functionalities (LVTTL RS-232 interface).

2.Applications:

- Fiber laser pumping;
- Medical/Life and health sciences.

3.Ordering Information:

ITLA	-XXX	-X	-XX	-XX	-XX
Name	Wavelength	Modulate	Output power	Fiber type	Connector
Integrated Tunable Laser Assembly	1550: 1550nm C-Band	N: Without(default) W: With	10: 10mW 15: 15mW 20: 20mW	PM: Polarization maintaining	FA: FC/APC SA: SC/APC Other

Coaxial FP/DFB Laser Diode

1.Features:

- MQW FP/DFB LD;
- Low threshold current and High output power;
- Built-in InGaAsP monitor PD;
- Wide temperature range operation (Tc=-45℃~+85℃).

2.Applications:

- CATV reverse transmission;
- Light source and Analog optical transmission.

3.Ordering Information:

BLD-	-X	-XX	-X	-XX	-X	-XX	-XX
Name	Laser type	Wavelength	Bandwidth	PIN-OUT	Isolator	Output Power	Connector
Coaxial Laser Diode	F: FP D: DFB C: CWDM	31: 1310nm 55: 1550nm CWDM 625: 1625nm 65: 1650nm	2: 2.5Gb/s 4: 4.3Gb/s 6: 6Gb/s	A: Type A B: Type B C: Type C	S: Single D: Dual W: Without	01: 1~2mW 02: 2~3mW 03: >3mW	FA: FC/APC SA: SC/APC Other

TO39 DFB Gas Laser Diode

1.Features:

- High-performance DFB laser;
- Industry-standard, wavelength stabilization;
- High output power;
- Airtight temperature control TO39 packaging.

2.Applications:

- Laser gas analysis and detection system.

3.Ordering Information:

Gas composition	Absorption wavelength	Gas composition	Absorption wavelength
HF	1268.7nm, 1278nm, 1273nm	CO	1567nm, 2332nm
HBr	1343nm	HS	1576nm, 1578nm, 1590nm
H2O	1368nm, 1392nm, 1800nm	CO2	1580nm, 1998nm, 2004nm
NH3	1512nm, 1531nm	C2H4	1620nm, 1627nm
C2H2	1532.68nm	CH4	1647nm, 1650.9nm, 1653.7nm
N2O	1521nm	HCl	1742nm

FP/DFB TO56 Laser Diode

1.Features:

- CWDM band wavelengths;
- Low threshold and low operating current;
- High efficiency and high output power;
- Wide operation temperature range;
- TO56 standard package.

2.Applications:

- 2.5/10Gbps fiber optic transmission;
- Optical communication transceivers;
- Storage area networks;
- Fiber optic sensors and measurement.

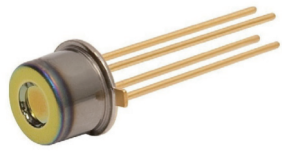
3.Ordering Information:

BLD	-XX	-XX	-XX	-XX	-XX
Name	Wavelength	Output power	Bandwidth	Pin-Out	Cap
Laser Diode	1310: 1310nm 1550: 1550nm Other	02: 2mW 05: 5mW 10: 10mW	01: 1.25G 02: 2.5G 10: 10G	A: A type B: B type Customized	AL: Aspherical Lens BL: Ball-lens FW: Flat window

Silicon/InGaAs TO46 Photodiode

1.Features:

- High responsibility and high reliability,
- Low capacitance and Low dark current,
- TO46 flat window hermetic package.



2.Applications:

- Optical power meter,
- Laser ranging and Optical sensor.

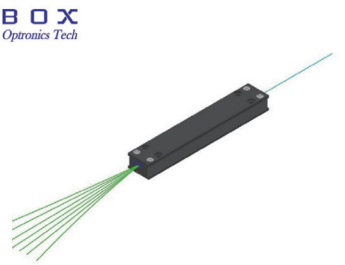
3.Ordering Information:

BPD	-X	-XX	-XXXX	-X	-XX
Name	PD type	Detect Area	TO type	Pin-Out	Cap
PD: Photodiode APD: Avalanche photodiode	I: InGaAs S: Silicon	50: 50um 5H: 500um 1S: 1000um 2S: 2000um 5S: 5000um	TO46 TO5 TO8	A: A type B: B type Customized	BL: Ball-lens FW: Flat window

High Power Pump & Signal Combiner

1.Features:

- High transfer efficiency;
- Air-Clad technology for Robust power delivery;
- Stable and reliable;
- Custom configurations available.



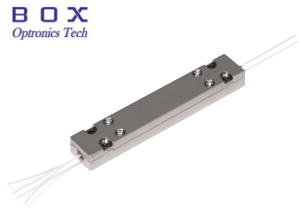
2.Applications:

- High power fiber laser;
- Fiber amplifier.

3.Ordering Information:

Part No.	Explain	Option
XXXX	Device type	PMMPC: PM; MPC: Non PM
X	Port configuration	1: (1+1)x1; 2: (2+1)x1; 4: 4x1; 6: (6+1)x1; 18: (18+1)x1
X	Pump wavelength	Pump Wave: F: 915nm; G: 975nm Signal Wave: I: 1064nm; O: 1550nm; K: 2000nm
X	Pumping direction	F: Forward pumping; B: Back-pumped
X	Pump fiber	A: 105/125 NA:0.22; B: 105/125 NA: 0.15; H: 200/220 NA 0.22; other
X	Signal input fiber	1: DCF6/125 NA:0.14/0.46; 2: DCF8/125 NA:0.14/0.46; 3: DCF10/125 NA:0.08/0.46; 4: DCF20/125 NA:0.08/0.46; 5: DCF20/250 NA:0.08/0.46; 6: DCF30/250 NA:0.06/0.46
X	Output fiber	1: DCF6/125NA:0.14/0.46; 2: DCF8/125NA:0.14/0.46; 3: DCF10/125 NA:0.08/0.46; 4: DCF20/125 NA:0.08/0.46; 5: DCF20/250 NA:0.08/0.46; 6: DCF30/250 NA:0.06/0.46; 7: DCF25/250 NA:0.06/0.46
XX	Pigtail length	08: 0.8m; 10: 1m
X	Package dimension	A: 70x12x8mm; B: 100x15x10mm; C: Φ4x60mm; other

Mode Field Adapter



1.Features:

- High power;
- High transfer efficiency;
- Stable and reliable.

2.Applications:

- High power fiber laser;
- High power fiber amplifier.

3.Ordering Information:

Part No.	Explain	Option
XXX	Device type	PMMFA: PM; MFA: Non PM
X	Port configuration	1: 1×1
XXXX	Pump wavelength	1060: 1030~1080; 1550: 1450~1600
X	Signal input fiber	0: SMF-28e; 1: Hi1060; 2: DCF6/125 NA:0.14/0.46; 3 50/125um; 4: 62.5/125um; other
X	Signal output fiber	1: DCF8/125 NA:0.14/0.46; 2: DCF10/125 NA:0.08/0.46; 3: 105/125 NA: 0.15; 4: 105/125 NA: 0.22; other
XX	Pigtail length	08: 0.8m; 10: 1.0m
X	Package dimension	A: 70x12x8mm; B: 100x15x10mm; C: Φ4x60mm; other

Fiber Polarization Controller

1.Features:

- High transfer efficiency;
- Stable and reliable.

2.Applications:

- High power fiber laser;
- Optical fiber communication test and sensing test;
- Automatic optical test system to build.

3.Ordering Information:

Part No.	Explain	Option
XXX	Device type	MPC: Manual Polarization Controller; EPC
X	Package type	M: Module; R: Rack
X	Working wavelength	1: 980~1060nm Multi-mode; 2: 1260~1620nm Single mode
XX	Optical connector	FA: FC/APC; SA: SC/APC; FU: FC/APC

1550nm PM Bandpass Filter

1.Features:

- High return loss and extinction ratio;
- High reliability&stability.

2.Applications:

- Fiber laser and Fiber sensor;
- Test instrument and EDFA.

3.Ordering Information:

Part No.	Explain	Option
XXX	Device type	BPF: PM Bandpass filter
X	Center wavelength	1598: T1550/R980nm
XXXX	Bandwidth	02: 2nm; 05: 5nm; 08: 08nm; 10: 10nm
X	Axis Alignment	F: Slow axis working, Fast axis blocked, B: Both axis working
XXX	Fiber Type	001: PM1550, 002: PM1310, 003: PM980, 004: Hi1060, 008: SMF-28E
XX	Package Dimension	0: φ5.5x35mm, 1: 70x12x8, S: Specified
X	Pigtail Type	0: 250μm bare fiber, 1: 900μm loose tube
X	Fiber Length	0: 0.8m,1: 1m
XX	Average Power:	03: 3W

Manual Variable Optical Attenuator

1.Features:

- High precision & Wide attenuation range;
- Low insertion loss.

2.Applications:

- Communication systems and Research unit;
- Test instrument and Fiber sensor.

3.Ordering Information:

Part No.	Explain	Option
XXX	Device type	MVOA
-XXXX	-Center wavelength:	1550: 1550nm, 1310: 1310nm,....., 850: 850nm
-XXX	-Fiber type:	001: PM1550, 002: PM1310, 003: PM980, 004: Hi1060, 008: SMF-28E
-X	-Pigtail type:	0: 250μm bare fiber, 1: 900μm loose tube
-X	-Fiber length:	0: 0.8m,1: 1m
-XX	-Connector for In&Out:	FA: FC/APC, FU: FC/UPC, SA: SC/APC, SU: SC/UPC, other

In-line Polarizer

1.Features:

- High return loss and Extinction ratio;
- High reliability and High stability.

2.Applications:

- Communication systems and Research unit;
- Test instrument and Fiber sensor;

3.Ordering Information:

Part No.	Explain	Option
XXX	Device type	ILP
XXXX	Center wavelength	1310: 1310nm; 1550: 1550nm; 850: 850nm 1064: 1064nm; 980: 980nm
X	Fiber type For Input	0: Panda Fiber; 1: SMF-28e; 2: Hi1060
X	Fiber type For Output	0: Panda Fiber; 1: SMF-28e; 2: Hi1060
XXX	Pigtail type	250: 250μm Panda fiber; 900: 900μm Loose tube
XX	Pigtail length	08: 0.8m; 10: 1m
XX	Connector type	FA: FC/APC; SA: SC/APC; FU: FC/APC; N: None

High Power Isolator

1.Features:

- High return loss and Isolation.

2.Applications:

- Polarization maintaining fiber amplifier;
- Testing instrument and Fiber laser.

3.Ordering Information:

Part No.	Explain	Option
XXXXX	Device type	HPMIS; HPIIS
XXXX	Center wavelength	980: 980nm; 1064: 1064nm; 1040: 1040nm; 1030: 1030nm
XX	Handling power	01: 1W; 02: 2W; 05: 5W; 20: 20W
X	Axis alignment For PM	F: Slow axis working, Fast axis blocked; B: Both of axis working
X	Fiber type	1: Hi1060 Fiber; 2: PM Panda fiber; S: Specified
XXX	Pigtail type	250: 250μm Bare fiber; 900: 900μm Loose tube
XX	Fiber length	08: 0.8m; 10: 1.0m; S: Specify
X	Package dimension	A: 72x34x33mm; B: 55x28.5x28mm

Multimode Pump Laser Source

1.Features:

- Up to 50W output power;
- Low power consumption;
- Pump protection;
- High isolation.

2.Applications:

- Fiber laser and Mode-locked fiber laser;
- Fiber amplifier;
- National defense military research;
- Research.

3.Ordering Information:

BMP	-XXX	-XX	-X
Name	Wavelength	Output power	Package
Multimode Pump laser source	915: 915nm 940: 940nm 976: 976nm	02: 2W 05: 5W 10: 10W	M: Module B: Benchtop

980nm Pump Laser Module

1.Features:

- High output power;
- High reliability and stability;
- OEM module available.

2.Applications:

- Fiber laser;
- Fiber amplifier;
- Fiber sensor.

3.Ordering Information:

BPL	-XXX	-XXXX	-X	-XX	-XX	-XX
Name	Wavelength	Output power	Fiber type	Connector	Package	Notes
980nm Pump Laser Module	974: 974nm 976: 976nm	200: 200mW 600: 600mW 750: 750mW 1000: 1000mW 1600:1600mW	S: HI1060 P: PM980	FA: FC/APC SA: SC/APC LA: LC/APC Other	M: Module B: Benchtop	NP:No pump Protector YP:1.0um protector EP:1.5um protector

C band/C+L band ASE Light Source

1.Features:

- High output power;
- High stability;
- Flatness in spectrum.

2.Applications:

- Fiber sensing;
- Optical tomography;
- DWDM Component Test.

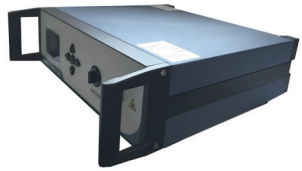
3.Ordering Information:

BASE	-C/C+L	-X	-XX	-X
Name	Wavelength	Power	Connector	Package
ASE Light Source	C: 1528-1563nm C+L: 1528-1603nm	10: 10mW 20: 20mW 100: 100mW	FA: FC/APC SA: SC/APC Other	M: Module B: Benchtop

C/C+L-band Raman Amplifier

1.Features:

- Modular design;
- Wide working range;
- High gain, low noise figure;
- Ultra-low power input.



2.Applications:

- Optical fiber communication;
- Optical fiber sensing;
- Laser radar;

3.Ordering Information:

BRFA	-XXXX	-XXX	-XX	-X	-XX	-XX
Name	Wavelength	Gain	Fiber type	Fiber length	Connector	Package
Raman Amplifier	1540: 1540nm 1550: 1550nm 1560: 1560nm C: 1528~1563nm L: 1568~1602nm C+L: 1528~1602nm	200: 200mW 400: 400mW 700: 700mW 1000: 1000mW	09: 0.9mm 20: 2mm	1: 1m 2: 2m	FA: FC/APC SA: SC/APC LA: LC/APC Other	M: 150x125x30 B: Benchtop

High Power Fiber Laser Module

1.Features:

- Power and spectral stability;
- Narrow linewidth;
- Module or benchtop package.

2.Applications:

- Fiber sensor;
- Seed light source;
- Nonlinear optics research.

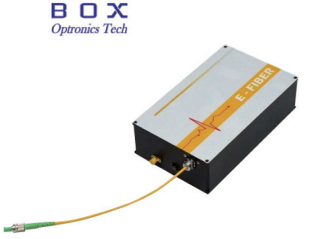
3.Ordering Information:

BFL	-XXXX	-XXX	-XX	-XX	-X
Name	Wavelength	Power	Fiber type	Connector	Package
Fiber Laser	1030: 1030nm 1064: 1064nm 1450: 1450nm C: 1528-1563nm C+L: 1528-1603nm	010: 10mW ... 200: 200mW 400: 400mW	HI: Hi1060 SM: SMF-28e PM: PM Fiber	FA: FC/APC SA: SC/APC Other	M: Module B: Benchtop

Picosecond Pulse Fiber Laser

1.Features:

- All fiber structure;
- Narrow pulse width;
- Fully self starting.



2.Applications:

- High power laser seed source;
- Nonlinear optics research;
- Research on ultrafast phenomenon;
- Optics OCT.

3.Ordering Information:

BSFL	-XXXX	-XX	-XXX	-XX	-XX	-X
Name	Wavelength	Pulse width	Power	Fiber type	Connector	Package
Picosec-ond Pulse Fiber Laser	1064: 1064nm 1550: 1550nm 1560: 1560nm	10: 10ps 20: 20ps	10: 10mW 20: 20mW ...	SM: Single mode PM: Polariza-tion maintaining fiber	FA: FC/APC SA: SC/APC Other	M: Module B: Benchtop

Fiber Components /Laser Device / Instrument / Equipment Development Manufacturer

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