

# 1300 nm (O-Band) Polarization-Dependent BOAs (Page 1 of 2)

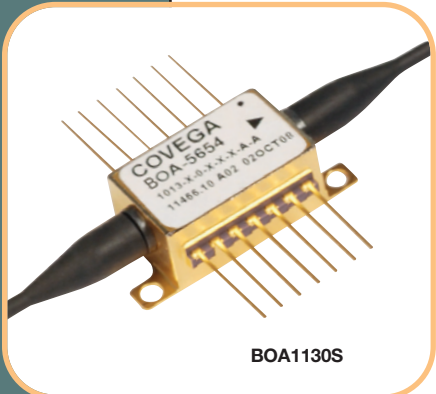
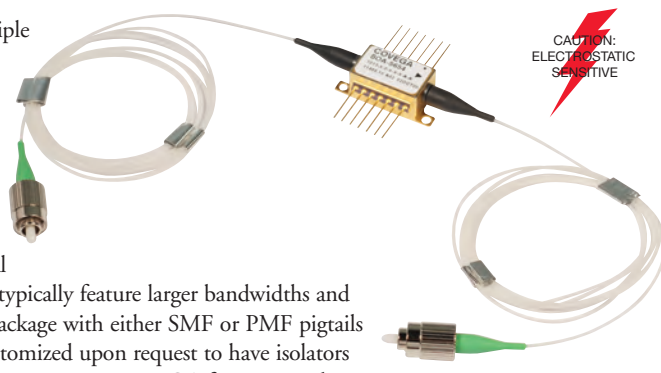
Thorlabs has ten varieties of O-Band Polarization-Dependent Booster Optical Amplifiers (BOAs). Our advanced epitaxial wafer growth and opto-electronic packaging techniques enable a high output saturation power, low noise figure, and large gain across a broad spectral bandwidth. The major differences between the models are the center wavelength and input and output fiber types.

These BOAs were designed and tested to ensure the highest available gain and  $P_{sat}$  on the market. The devices come in an industry-standard 14-pin butterfly package with either single mode fiber or polarization-maintaining fiber pigtails.

BOAs, a polarization-dependent variety of Semiconductor Optical Amplifiers (SOAs), directly amplify optical signals using the properties of semiconductors. The Semiconductor Optical Amplifiers structure consists of a highly efficient InP/InGaAsP Multiple Quantum Well (MQW) layer structure grown on an InP wafer and processed into a waveguide. Thorlabs' SOAs are designed as single-pass, traveling-wave optical amplifiers that perform well with both monochromatic and multi-wavelength signals. We also offer O-Band Optical Amplifiers that have been tested and determined to have significantly superior performance over the design specifications of the device. These premium devices are known as our XL series. While the normal product line is specified with typical values, the XL line is specified with minimum values. These devices typically feature larger bandwidths and greater gain. The device is packaged in a standard 14-pin butterfly package with either SMF or PMF pigtails that are terminated with FC/APC connectors. The BOAs can be customized upon request to have isolators on the input, output, or both. Please contact Tech Support for help in customizing a BOA for your application.

**BOA – Polarization-Dependent Optical Amplifier**

- Polarization-Dependent Amplification
- High Saturation Power (up to 18 dBm)
- High Gain Levels (up to 30 dB)
- Available as SM or PM Fiber-Pigtailed Butterfly Package
- 1.5 m Fiber-Pigtailed FC/APC Connectors
- Typical Applications are Amplification of Lasers and Transmitter Signals and Swept-Source Tunable Lasers



ITEM#	BOA1130S / BOA1130P			BOA1130SXL / BOA1130PXL		
Parameter	Min	Typical	Max	Min	Typical	Max
Operating Current	–	600 mA	750 mA	–	600 mA	750 mA
Center Wavelength	1265 nm	1285 nm	1295nm	1265 nm	1275 nm	1290 nm
Optical 3 dB Bandwidth	80 nm	87 nm	–	90 nm	–	–
Saturation Output Power (@ -3 dB)	15 dBm	17 dBm	–	17 dBm	18 dBm	–
Small Signal Gain Across BW (@ Pin = -20 dBm)	27 dB	30 dB	–	30 dB	–	–
Gain Ripple (p-p) @ IOP	–	0.2 dB	0.3 dB	–	0.2 dB	0.3 dB
Noise Figure	–	7.0	9.0	–	7.0	9.0
Forward Voltage	–	1.6 V	2.0 V	–	1.6 V	2.0 V
TEC Current*	–	0.4 A	1.5 A	–	0.4 A	1.5 A
TEC Voltage*	–	0.5 V	4.0 V	–	0.5 V	4.0 V
Thermistor Resistance*	–	10 kΩ	–	–	10 kΩ	–

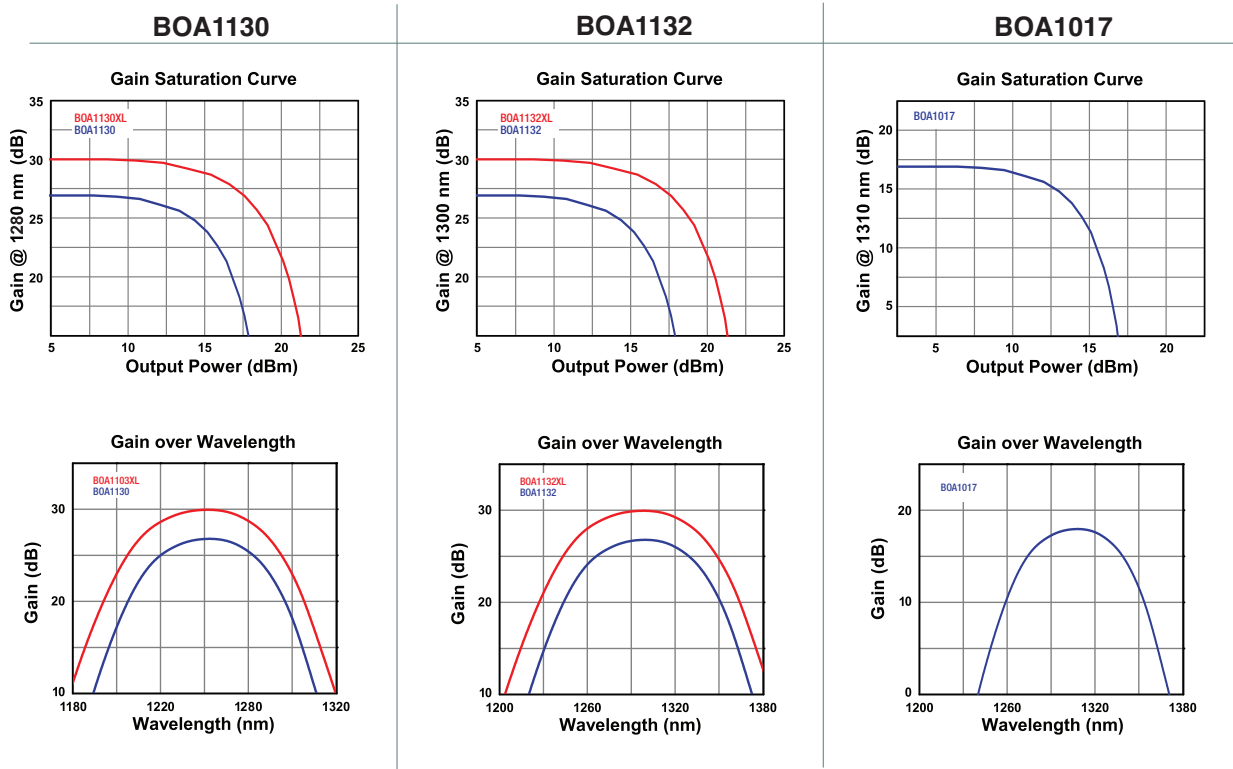
\* TEC Operation (Typ/Max @ TCASE = 25/70 °C)

ITEM#	BOA1017S / BOA1017P			BOA1132S / BOA1132P			BOA1132SXL / BOA1132PXL		
Parameter	Min	Typical	Max	Min	Typical	Max	Min	Typical	Max
Operating Current	–	500 mA	600 mA	–	700 mA	750 mA	–	700 mA	750 mA
Center Wavelength	1290 nm	1310 nm	1330 nm	1290 nm	1300 nm	1315 nm	1290 nm	1300 nm	1315 nm
Optical 3 dB Bandwidth	60 nm	70 nm	–	80 nm	87 nm	–	90 nm	–	–
Saturation Output Power (@ -3 dB)	13 dBm	15 dBm	–	15 dBm	17 dBm	–	17 dBm	18 dBm	–
Small Signal Gain Across BW (@ Pin = -20 dBm)	17 dB	23 dB	–	27 dB	30 dB	–	30 dB	–	–
Gain Ripple (p-p) @ IOP	–	0.3 dB	0.8 dB	–	0.2 dB	0.3 dB	–	0.1 dB	0.2 dB
Noise Figure	–	7.0 dB	9.0 dB	–	7.0 dB	9.0 dB	–	6.0 dB	7.0 dB
Forward Voltage	–	1.4 V	1.6 V	–	1.6 V	2.0 V	–	1.6 V	2.0 V
TEC Current*	–	0.15 A	1.5 A	–	0.4 A	1.5 A	–	0.4 A	1.5 A
TEC Voltage*	–	0.35 V	3.5 V	–	0.5 V	4.0 V	–	0.5 V	4.0 V
Thermistor Resistance*	–	10 kΩ	–	–	10 kΩ	–	–	10 kΩ	–

\* TEC Operation (Typ/Max @ TCASE = 25/70 °C)

# 1300 nm (O-Band) Polarization-Dependent BOAs (Page 2 of 2)

**NEW**  
products



## Booster Optical Amplifiers

ITEM#	\$	£	€	RMB	DESCRIPTION
BOA1130S	\$ 2,115.00	£ 1,466.00	€ 1,877.50	¥ 17,860.00	1285 nm BOA, 80 nm BW, Butterfly, SME, FC/APC
BOA1130P	\$ 2,380.00	£ 1,650.00	€ 2,113.00	¥ 20,097.00	1285 nm BOA, 80 nm BW, Butterfly, PME, FC/APC
BOA1130SXL	\$ 4,230.00	£ 2,932.50	€ 3,755.50	¥ 35,719.00	1275 nm BOA, 90 nm BW, Butterfly, SME, FC/APC
BOA1130PXL	\$ 4,760.00	£ 3,300.00	€ 4,226.00	¥ 40,194.00	1275 nm BOA, 90 nm BW, Butterfly, PME, FC/APC
BOA1132S	\$ 2,015.00	£ 1,397.00	€ 1,789.00	¥ 17,015.00	1300 nm BOA, 80 nm BW, Butterfly, SME, FC/APC
BOA1132P	\$ 2,280.00	£ 1,580.50	€ 2,024.00	¥ 19,253.00	1300 nm BOA, 80 nm BW, Butterfly, PME, FC/APC
BOA1132SXL	\$ 4,030.00	£ 2,793.50	€ 3,578.00	¥ 34,030.00	1300 nm BOA, 90 nm BW, Butterfly, SME, FC/APC
BOA1132PXL	\$ 4,560.00	£ 3,162.00	€ 4,049.00	¥ 38,505.00	1300 nm BOA, 90 nm BW, Butterfly, PME, FC/APC
BOA1017S	\$ 1,875.00	£ 1,300.00	€ 1,664.50	¥ 15,833.00	1310 nm BOA, 60 nm BW, Butterfly, SME, FC/APC
BOA1017P	\$ 2,140.00	£ 1,483.50	€ 1,900.00	¥ 18,071.00	1310 nm BOA, 60 nm BW, Butterfly, PME, FC/APC



**New Wavelengths Available**  
**Benchtop PM Fiber-Coupled Sources**  
 See Page 1058

**NEW**  
design

- Single Mode FC/PC Fiber Interface
- Narrow Key PM Fiber Aligned to the Slow Axis
- Low Noise, Highly Stable Output
- 5 Standard Models: 635, 675, 780, 1310, and 1550 nm
- Custom Wavelengths Available