For current pricing, please see our website.

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

Thorlabs has six 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.

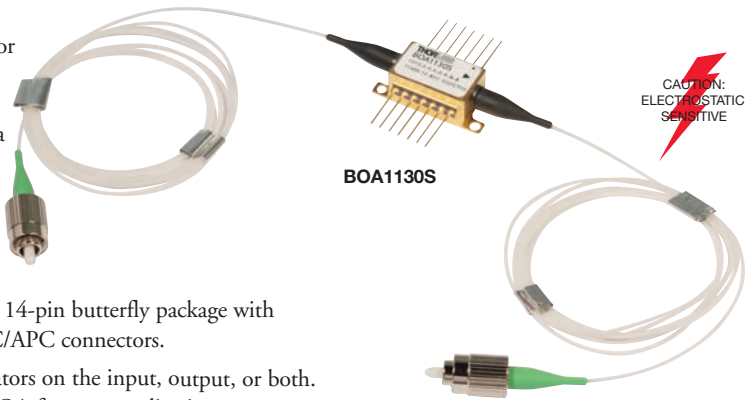
These BOAs were designed and tested to ensure the highest available gain and P_{sat} on the market. The devices come in an industry-standard 14-pin butterfly package with either single mode fiber or polarization-maintaining fiber pigtails.

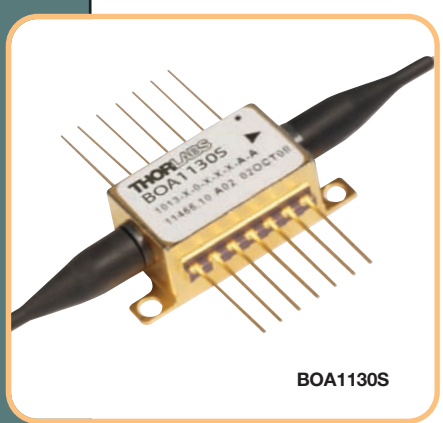
BOAs, a polarization-dependent variety of Semiconductor Optical Amplifiers (SOAs), directly amplify optical signals using the properties of semiconductors. The Semiconductor Optical Amplifier's structure consists of a highly efficient InP/InGaAsP Multiple Quantum Well (MQW) layer structure grown on an 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. 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 17 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





BOA1130S

ITEM #	BOA1130S / BOA1130P		
PARAMETER	MIN	TYPICAL	MAX
Operating Current	—	700 mA	750 mA
Center Wavelength	1265 nm	1285 nm	1295 nm
Optical 3 dB Bandwidth	80 nm	87 nm	—
Saturation Output Power (@ -3 dB)	15 dBm	17 dBm	—
Small Signal Gain (@ P_{in} = -20 dBm; λ = 1312 nm)	27 dB	30 dB	—
Gain Ripple (RMS) @ I_{op}	—	0.2 dB	0.3 dB
Noise Figure	—	7 dB	9 dB
Forward Voltage	—	1.6 V	2.0 V
TEC Current*	—	0.4 A	1.5 A
TEC Voltage*	—	0.5 V	4.0 V
Thermistor Resistance*	—	10 kΩ	—

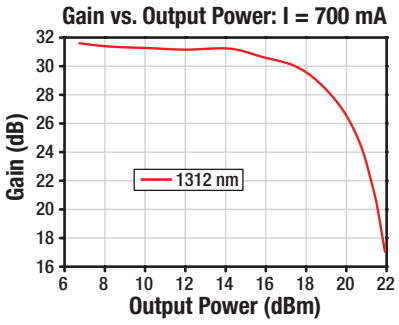
*TEC Operation (Typical/Max @ T_{Case} = 25/70 °C)

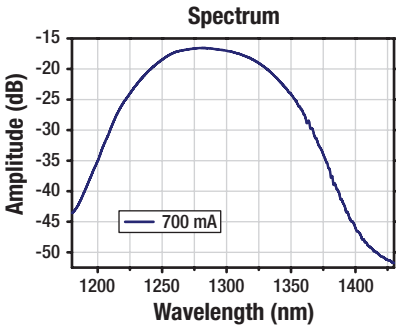
ITEM #	BOA1132S / BOA1132P			BOA1017S / BOA1017P		
PARAMETER	MIN	TYPICAL	MAX	MIN	TYPICAL	MAX
Operating Current	—	700 mA	750 mA	—	600 mA	750 mA
Center Wavelength	1290 nm	1300 nm	1315 nm	1290 nm	1310 nm	1300 nm
Optical 3 dB Bandwidth	80 nm	87 nm	—	60 nm	70 nm	—
Saturation Output Power (@ -3 dB)	15 dBm	17 dBm	—	13 dBm	15 dBm	—
Small Signal Gain (@ P_{in} = -20 dBm; λ = 1312 nm)	27 dB	30 dB	—	17 dB	23 dB	—
Gain Ripple (RMS) @ I_{op}	—	0.2 dB	0.3 dB	—	0.1 dB	0.25 dB
Noise Figure	—	7 dB	9 dB	—	7 dB	9 dB
Forward Voltage	—	1.6 V	2.0 V	—	1.4 V	1.6 V
TEC Current*	—	0.4 A	1.5 A	—	0.15 A	1.5 A
TEC Voltage*	—	0.5 V	4.0 V	—	0.35 V	4.0 V
Thermistor Resistance*	—	10 kΩ	—	—	10 kΩ	—

*TEC Operation (Typical/Max @ T_{Case} = 25/70 °C)

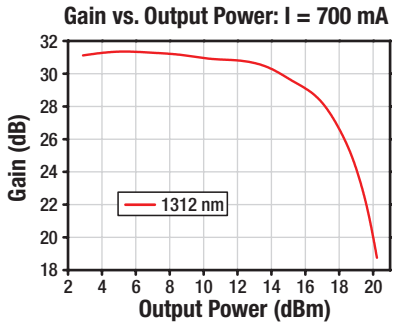
1300 nm (O-Band) Polarization-Dependent BOAs (Page 2 of 2)

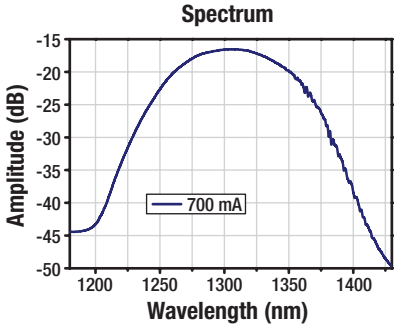
BOA1130 Series



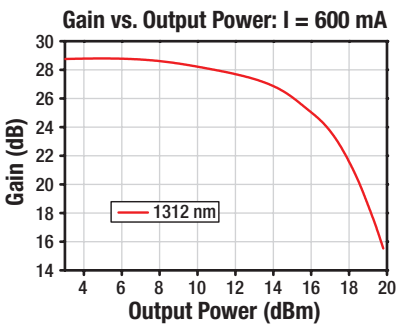


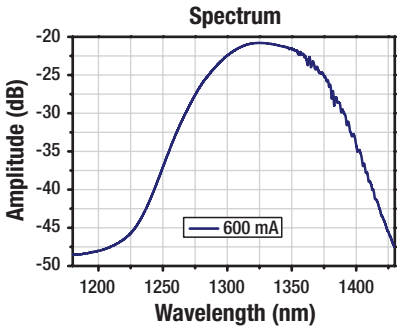
BOA1132 Series



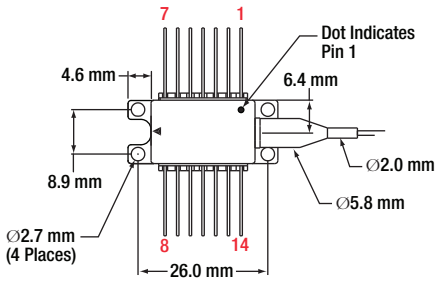


BOA1017 Series





14-Pin Butterfly Package Compatibility



Pin Identification

1. TEC +	14. TEC -
2. Thermistor	13. Case
3. NC	12. NC
4. NC	11. Dev Cathode
5. Thermistor	10. Dev Anode
6. NC	9. NC
7. NC	8. NC

Booster Optical Amplifiers

ITEM #	$	£	€	RMB	DESCRIPTION
BOA1130S	$ 2,115.00	£ 1,522.80	€ 1.840,10	¥ 16,856.55	1285 nm BOA, 87 nm BW, Butterfly Package, SM Fiber, FC/APC Connectors
BOA1130P	$ 2,380.00	£ 1,713.60	€ 2.070,60	¥ 18,968.60	1285 nm BOA, 87 nm BW, Butterfly Package, PM Fiber, FC/APC Connectors
BOA1132S	$ 2,015.00	£ 1,450.80	€ 1.753,10	¥ 16,059.55	1300 nm BOA, 87 nm BW, Butterfly Package, SM Fiber, FC/APC Connectors
BOA1132P	$ 2,280.00	£ 1,641.60	€ 1.983,60	¥ 18,171.60	1300 nm BOA, 87 nm BW, Butterfly Package, PM Fiber, FC/APC Connectors
BOA1017S	$ 1,875.00	£ 1,350.00	€ 1.631,30	¥ 14,943.75	1310 nm BOA, 70 nm BW, Butterfly Package, SM Fiber, FC/APC Connectors
BOA1017P	$ 2,140.00	£ 1,540.80	€ 1.861,80	¥ 17,055.80	1310 nm BOA, 70 nm BW, Butterfly Package, PM Fiber, FC/APC Connectors

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Benchtop PM Fiber-Coupled Sources

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

For more details, see page 1264