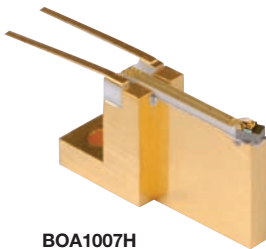


For current pricing,  
please see our website.

## 1550 nm (C-Band) Polarization-Dependent BOAs



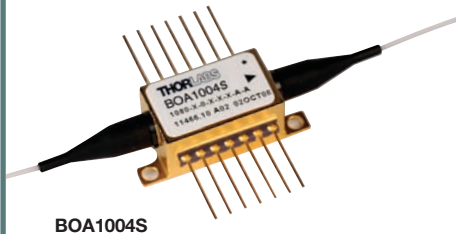
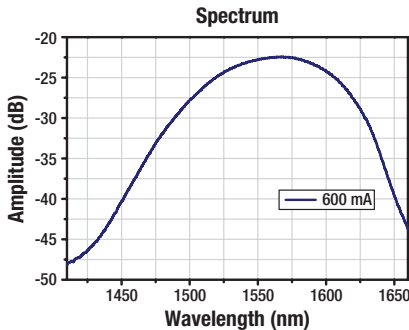
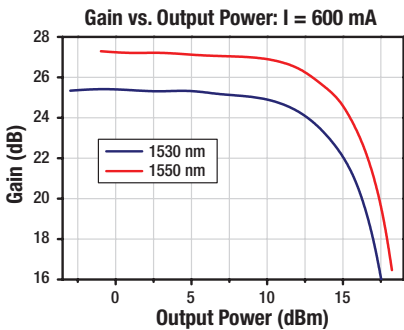
**BOA1007H**  
Chip on Submount

Thorlabs has four varieties of 1550 nm Booster Optical Amplifiers (BOAs), which are polarization-dependent variants of Semiconductor Optical Amplifiers (SOAs). 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 BOA devices are available as chip on submount (CoS), as chip on heatsink (CoH), or in a butterfly package. Our BOA devices are designed and tested to ensure the highest available gain and saturated output power on the market. The butterfly devices come in an industry-standard 14-pin package with single mode or polarization-maintaining pigtailed. Devices can be customized to include input or output isolators.

Semiconductor Optical Amplifiers are devices that directly amplify optical signals using the properties of semiconductors. The BOA 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' Semiconductor Optical Amplifiers are designed as single-pass, traveling-wave optical amplifiers that perform well with both monochromatic and polychromatic signals. Please contact Tech Support for help customizing a BOA.

### Observed Gain and $P_{\text{sat}}$ Performance, BOA1004 and BOA1007 Series



**BOA1004S**

 **Mechanical**  
Drawings Available on the  
**WEB**

ITEM #	BOA1004S / BOA1004P			BOA1007C / BOA1007H		
	MIN	TYPICAL	MAX	MIN	TYPICAL	MAX
Operating Current	—	600 mA	750 mA	—	600 mA	750 mA
Center Wavelength	1530 nm	1550 nm	1570 nm	1530 nm	1550 nm	1570 nm
Optical 3 dB Bandwidth	80 nm	85 nm	—	80 nm	85 nm	—
Saturation Output Power (@ -3 dB)	13 dBm	15 dBm	—	15 dBm	18 dBm	—
Small Signal Gain (@ $P_{\text{in}} = -20 \text{ dBm}$ ; $\lambda = 1550 \text{ nm}$ )	23 dB	27 dB	—	26 dB	30 dB	—
Gain Ripple (RMS) @ $I_{\text{op}}$	—	0.05 dB	0.2 dB	—	0.05 dB	0.2 dB
Polarization Extinction Ratio	—	—	—	—	18 dB	—
Noise Figure	—	7.5 dB	9 dB	—	6.0 dB	8.0 dB
Forward Voltage	—	1.3 V	1.6 V	—	1.3 V	1.6 V
TEC Current*	—	0.13 A	1.5 A	—	—	—
TEC Voltage*	—	0.28 V	4.0 V	—	—	—
Thermistor Resistance*	—	10 k $\Omega$	—	—	—	—
Chip Length	—	1.5 mm	—	—	1.5 mm	—
Lateral Beam Angle	—	—	—	—	19.5 °	—
Beam Divergence Angle (FWHM), Transverse	—	—	—	26 °	34 °	42 °
Beam Divergence Angle (FWHM), Lateral	—	—	—	10 °	14 °	30 °

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

ITEM #	\$	£	€	RMB	DESCRIPTION
BOA1004S	\$ 1,750.00	£ 1,260.00	€ 1,522.50	¥ 13,947.50	1550 nm BOA, 85 nm BW, Butterfly Pkg, SM Fiber, FC/APC Connectors
BOA1004P	\$ 2,015.00	£ 1,450.80	€ 1,753.10	¥ 16,059.55	1550 nm BOA, 85 nm BW, Butterfly Pkg, PM Fiber, FC/APC Connectors
BOA1007C	\$ 850.00	£ 612.00	€ 739.50	¥ 6,774.50	1550 nm BOA, 85 nm BW, Chip on Submount
BOA1007H	\$ 925.00	£ 666.00	€ 804.75	¥ 7,372.25	1550 nm BOA, 85 nm BW, Chip on Heatsink