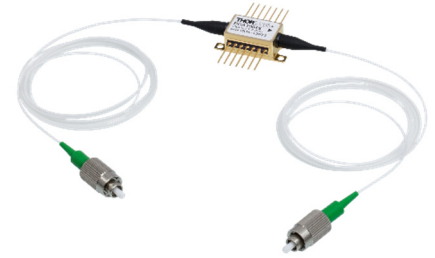


### BOA1004S SM Fiber

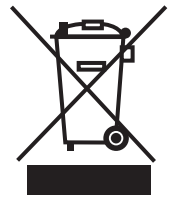


### Description

Thorlabs' BOA1004S is a high saturation output power, high bandwidth, polarization-maintaining Booster Optical Amplifier. The BOA1004S incorporates a highly efficient InP/InGaAsP Quantum Well (QW) layer structure and a reliable ridge waveguide design. This BOA is housed in a standard 14-pin butterfly package with an integrated thermoelectric cooler (TEC) and thermistor.

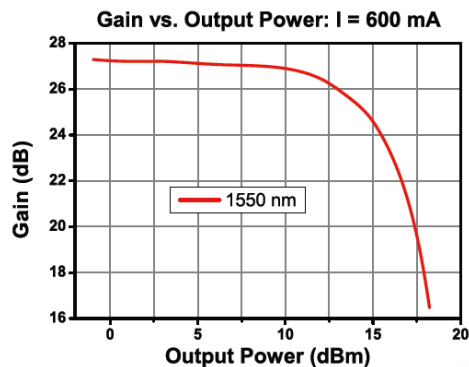
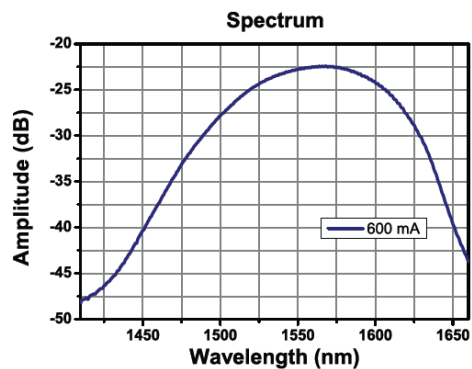
### Specifications

$T_{CHIP} = 25\text{ }^{\circ}\text{C}$ ,  $T_{CASE} = 0 - 70\text{ }^{\circ}\text{C}$

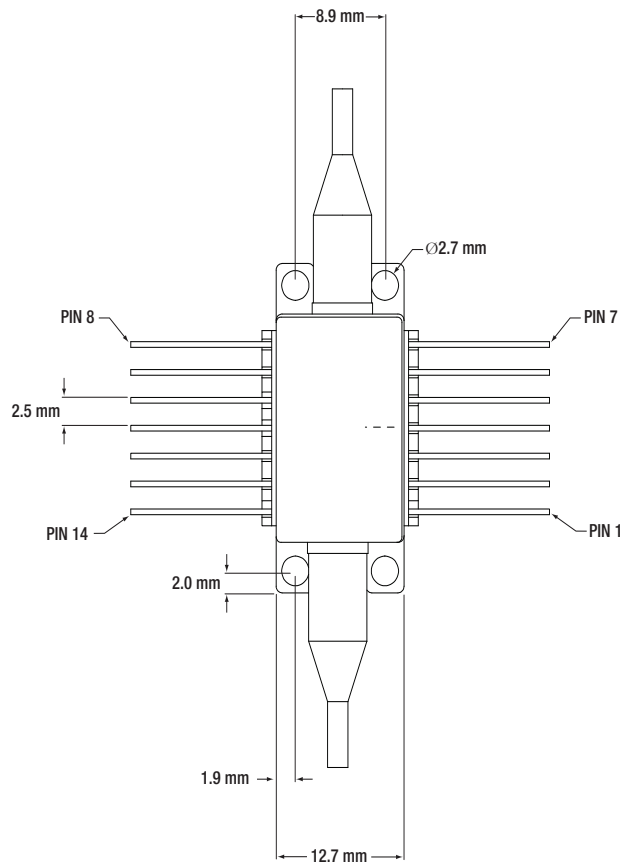


BOA1004S				
	Symbol	Min	Typical	Max
Operating Current	$I_{OP}$	-	600 mA	750 mA
Center Wavelength	$\lambda_C$	1530 nm	1550 nm	1570 nm
ASE Optical 3 dB Bandwidth	BW	80 nm	85 nm	-
Saturation Output Power @ -3 dB	$P_{SAT}$	13 dBm	15 dBm	-
Small Signal Gain across BW @ $P_{in} = -20\text{ dBm}$ , $\lambda = 1550\text{ nm}$	G	23 dB	27 dB	-
Gain Ripple (RMS) @ $I_{op}$	$\delta G$	-	0.05 dB	0.3 dB
Polarization Extinction Ratio	PER	-	18 dB	-
Noise Figure	NF	-	7.5 dB	9 dB
Forward Voltage	$V_F$	-	1.3 V	1.6 V
TEC Operation (Typ. / Max @ $T_{CASE} = 25\text{ }^{\circ}\text{C} / 70\text{ }^{\circ}\text{C}$ )				
-TEC Current	$I_{TEC}$	-	0.13 A	1.5 A
-TEC Voltage	$V_{TEC}$	-	0.28 V	4.0 V
-Thermistor Resistance	$R_{TH}$	-	10 k $\Omega$	-

### Performance Plots



## Drawings



### T. Case

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

