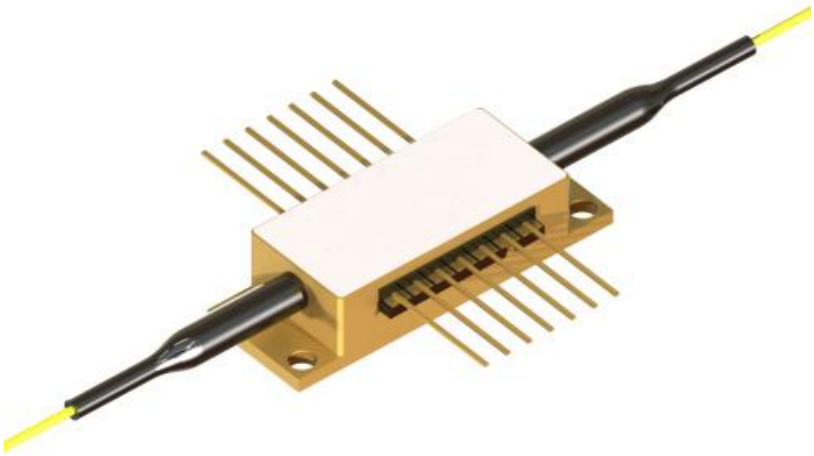
1060nm Booster Optical Amplifier



Product Description

A high-power boost optical amplifier (BOA) designed for the 1060nm band. By using proprietary anti reflective coatings and tilted waveguide design, Fabry Perot resonance can be effectively suppressed, ensuring that the device operates in a traveling wave amplification state. This product has high saturation output power, wide operating bandwidth, and high polarization extinction ratio characteristics. It adopts a standard 14 pin butterfly package and is suitable for increasing seed light sources to power levels of hundreds of milliwatts.

Product features

Fiber-coupled; High power amplification; Wide wavelength; Low noise; Compact package

Part Number

MP-BOA-1060-80-80-XA

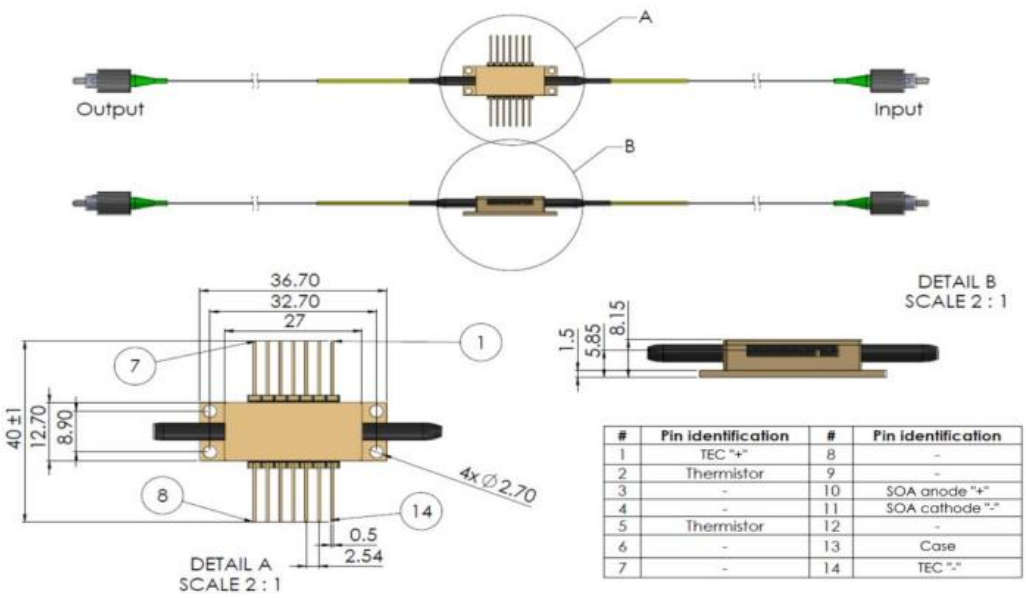
Application area

Fiber optic communication | Laser processing | Sensing systems | Medical lasers | Defense technology

Core parameters

Center Wavelength	Saturated Output Power@-3dB	Bandwidth@-3dB
1060nm	19dBm	80nm

Dimension Drawing



#	Pin identification	#	Pin identification
1	TEC "+"	8	-
2	Thermistor	9	-
3	-	10	SOA anode "+"
4	-	11	SOA cathode "-"
5	Thermistor	12	-
6	-	13	Case
7	-	14	TEC "-"

General Parameters

Detail Parameter

Recommended Operating Conditions

@ CW, case mounted on 25°C heatsink

Parameter	Min.	Typical	Max.	Unit
Chip Temperature	20	25	30	°C
Forward Current		400	500	mA
Output Power in Amplification Mode			120	mW
Input Optical Power	-20	10	15	dBm

Gain Characteristics

@ CW, 25°C, 400mA, input signal 10dBm, 1060nm

Parameter	Min.	Typical	Max.	Unit
Forward Current@120mW			500	mA
Small Signal Gain@Pin=-25dBm	12	15		dB
Saturated Output Power@-3dB	16	19		dBm
Average Wavelength	1040	1060	1080	Nm
Bandwidth@-3dB		80		nm

Amplified Spontaneous Emission (ASE) Characteristics

@ CW, 25°C, 400mA, no input signal

Parameter	Min.	Typical	Max.	Unit
Output Power（per port）		1		mW
Forward Current		1.7	2.1	V
Average Wavelength		1015		nm
Bandwidth（FWHM）		25		nm
Ripple**（RMS）		0.01	0.1	dB
Polarization Extinction	15	18		dB

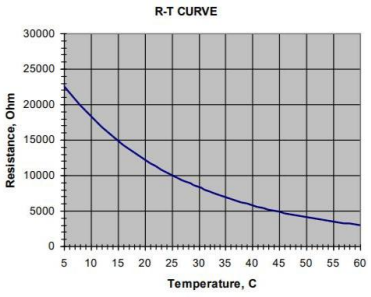
Ratio (PER)				
Polarization		TE		

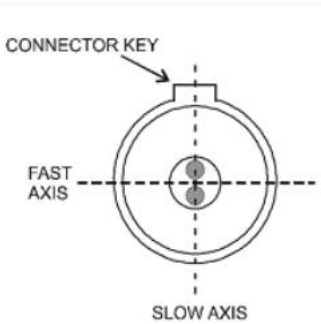
** - Measured over a 1nm range around the spectral maximum at 20pm resolution

Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
Output Optical Power		300	mW
Input Optical Power		20	dBm
Forward Current		600	mA
Reverse Voltage		2	V
TEC Current		3	A
TEC Voltage		4	V
Chip Operating Temperature	10	40	°C
Case Operating Temperature	0	70	°C
Storage Temperature	-40	85	°C
Pin soldering temperature(max. 10 second, max. case temperature 120°C)		300	°C
Fiber bend radius	3		cm

Thermistor Specifications			Fiber Specifications			
Parameter	Value	Unit	Parameter	PM980	HI1060	Unit
Type	NTC	—	Numerical Aperture, typical	0.12	0.14	—
Resistance @ 25 °C	10 ± 0.1	kΩ	Cutoff Wavelength	900 ± 70	920 ±50	Nm
Beta (25–85 °C)	3435 ± 1%	K	Mode Field Diameter (@ 1060 nm)	6.6 ± 0.3	6.2 ± 0.3	μm
			Cladding Diameter	125±1	125±1	μm
			Coating Diameter	245±15	245±15	μm
			Loose Tube Diameter (Optional)	900	900	μm
			Connector	FC/APC (narrow key)		
			Connector Alignment aligned with PANDA fiber			





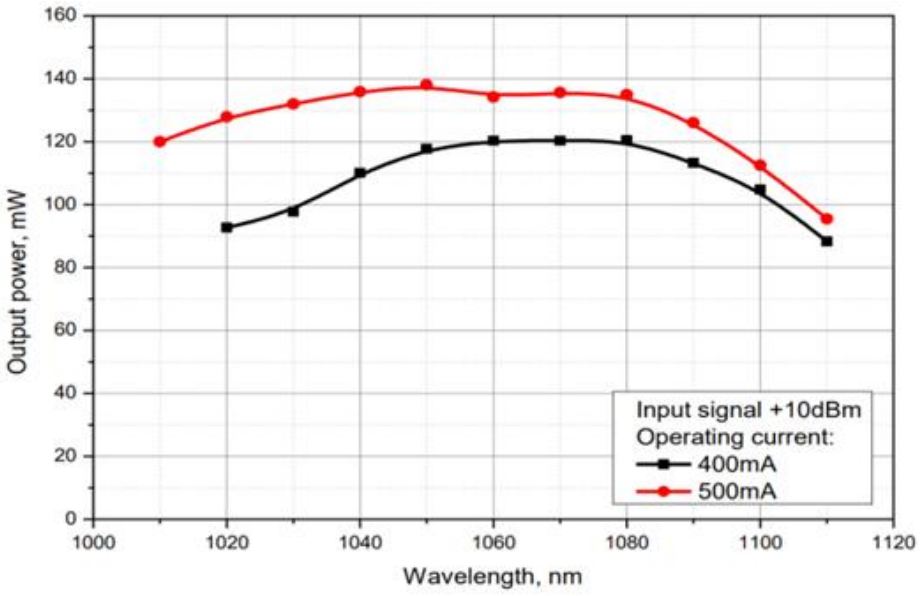
Output light is polarized along the slow axis of the PM fiber.

Characteristic Curves

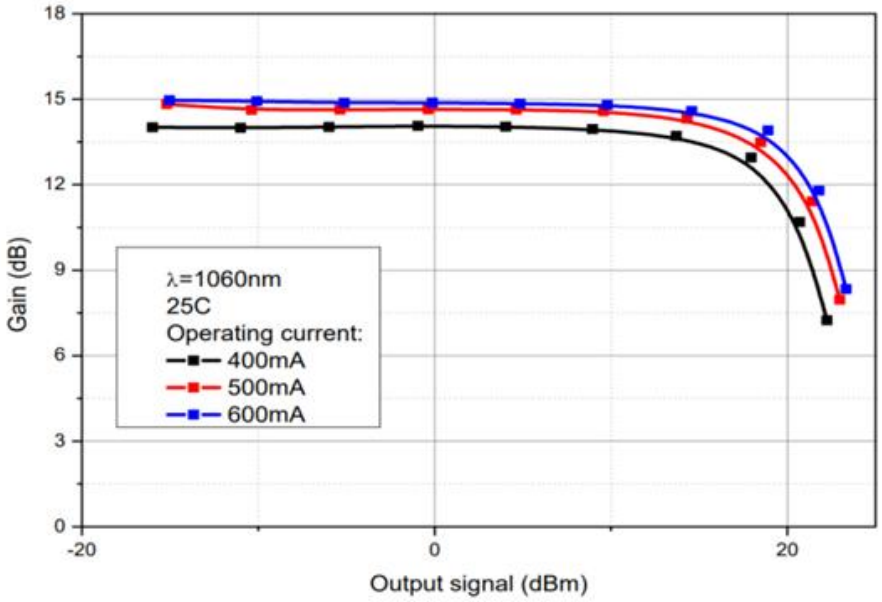
Typical Performance (for reference only)

@ CW, case mounted on 25°C heatsink

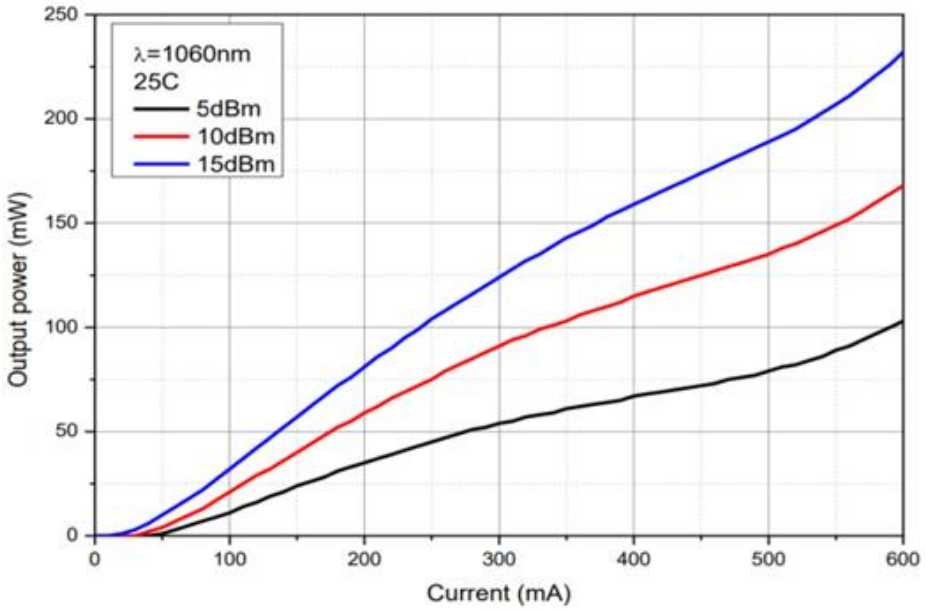
Power spectra at different currents



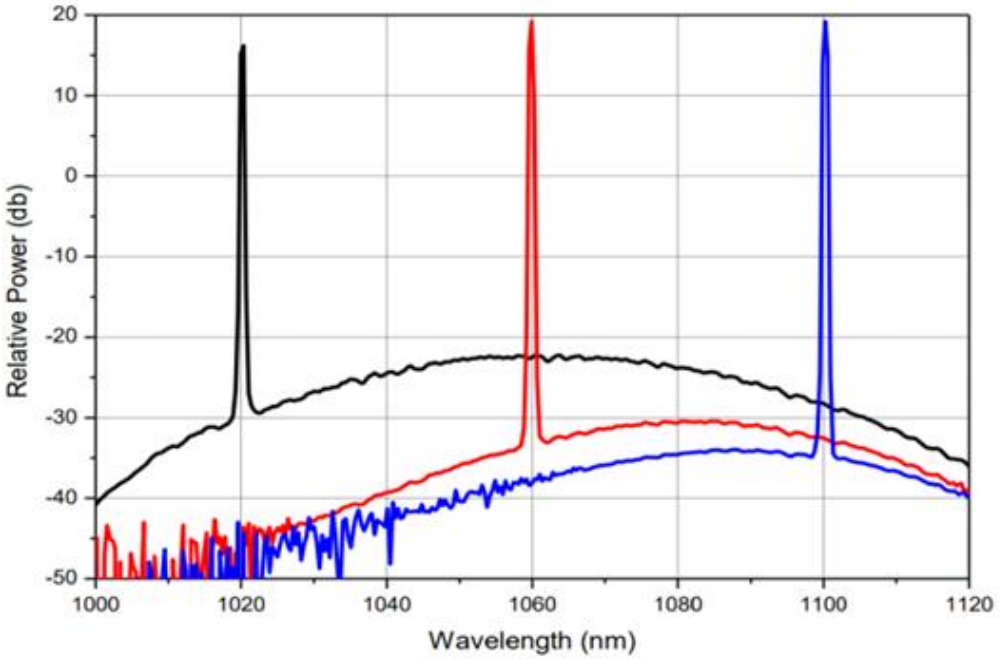
Gain vs Output Power



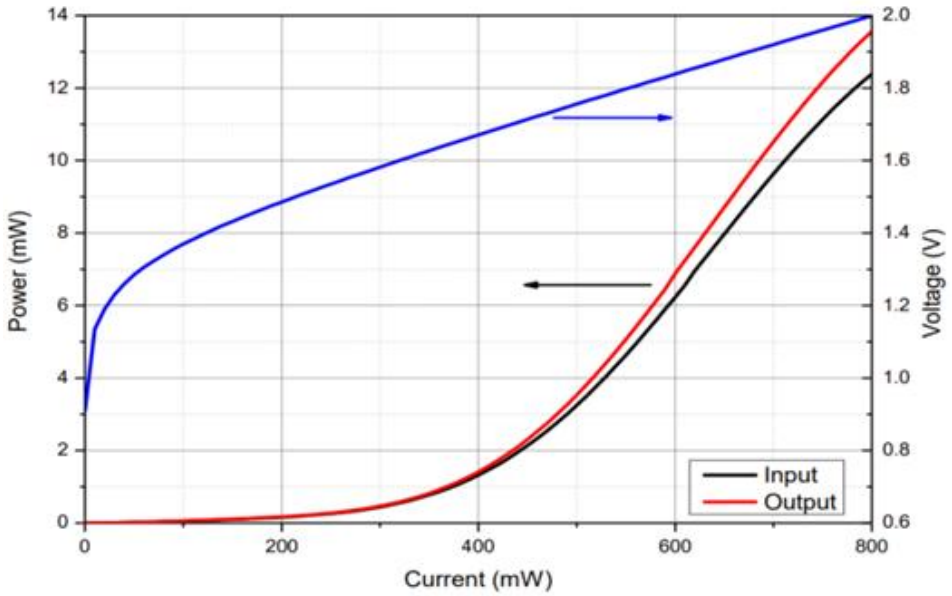
Output power at different input signals



Spectra of amplified optical sgnal



ASE LIV characteristics



ASE spectra