Broadband Pulse Amplifiers

BBA Series

The BBA series ultrafast broadband amplifiers find universal applications in telecommunications, high-speed electronics and especially in laser and photonics research.

The BBA series are primarily designed to amplify the signals of our UPD series ultrafast photodetectors. This combination is an inexpensive replacement for avalanche photodiodes.

The +20 dB gain version BBA-10 (×10 amplitude amplification) features extremely low noise of only 2.8 dB. The BBA-10-4HP is the high power/high-frequency version with up to 70 mW output power and peak amplitude of max. 2.6 V on 50 Ω load. This model is indispensable when a high output level and a wider bandwidth are required. The gain expands up to 4 GHz and +13 dB. The high-power BBA-1W model has 1W output power in the range 50 MHz to 1 GHz.

Even higher gain (×15 or ×100) is available from the models BBA-15 and BBA-100.

The variable gain model BBA-100-VG provides maximum flexibility in diverse applications. Amplitude amplification up to 100 times allows detection of low level signals.

The single voltage supply and the compact design assure user-friendly operation.

Features

- Extremely Broad Bandwidth
- Low Noise
- High Gain
- Noise Immunity
- Compact Coaxial Design
- AC-Coupled

Applications

- Telecommunications
- High-Speed Electrical Measurements
- High-Speed Optical Measurements
- Laser Research
- Photonics Research
- Photon Counting
- AOM Driver
- Laser Diode Driver

ALPHALAS GMBH
Bertha-von-Suttner-Str. 5
D-37085 Goettingen
Germany

TEL +49 - 551 - 77 06 147
FAX +49 - 551 - 77 06 146
E-MAIL sales@alphalas.com
WEB www.alphalas.com

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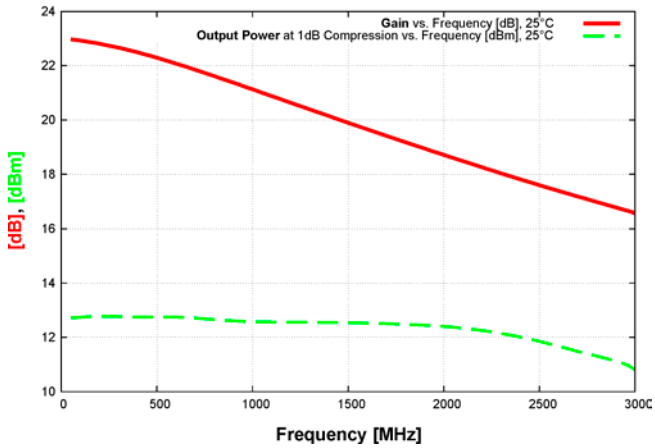
ALPHALAS™

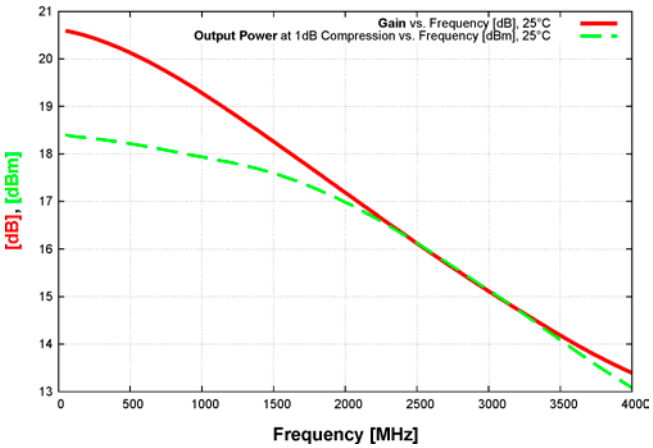
BBA Series • Available Models

Model	BBA-10	BBA-10-4HP	BBA-15	BBA-100	BBA-100-VG	BBA-1W
Type	inverting	inverting	inverting	non-inverting	non-inverting	inverting
Impedance	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
Bandwidth [GHz]	0.01 - 3	0.01 - 4	0.01 - 2	0.01 - 2	0.01 - 2	0.05 - 1
Gain [dB] @1 GHz / @2 GHz / @3 GHz	21.0 / 18.7 / 16.6	19.2 / 17.2 / 15.1	24.5 / 19.0 / 15.0	43.5 / 36.5 / 30.0	43.5 / 36.5 / 30.0	30.0 / - / -
Max. Input Power [dBm] / [mW]	13 / 20	13 / 20	13 / 20	-10 / 0.1	-10 / 0.1	-2.6 / 0.55
Max. Output Power [dBm] / [mW]	12.5 / 17.5	18.4 / 69	12.5 / 17.5	18.4 / 69	18.4 / 69	30.0 / 1000
Equivalent Input Noise [µV]	35	53	47	35	43	57
Noise Figure [dB]	2.8	4	3	7	7	7.5
Saturated Output Power [dBm (-3 dB)] / Level [mV (rms)]	13.1 / 1010	18.5 / 1880	13.7 / 1080	18.5 / 1880	18.5 / 1880	31.5 / 8430
Required Power Supply	+9 V / 35 mA	+9 V / 65 mA	+9 V / 35 mA	+9 V / 100 mA	+15 V / 200 mA	+12 V / 1 A
Dimensions excl. Connectors [mm³]	25 × 20 × 25	25 × 20 × 25	25 × 20 × 25	25 × 20 × 25	105 × 65 × 105	51 × 35 × 77
RF Connectors Type	SMA (female)	SMA (female)	SMA (female)	SMA (female)	SMA (female)	SMA (female)

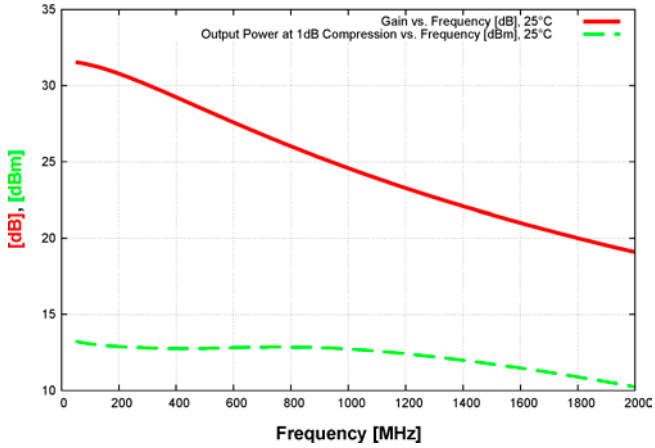
BBA-10



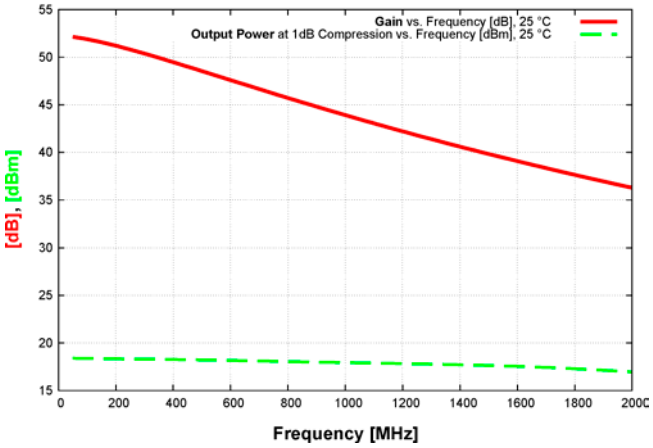
BBA-10-4HP



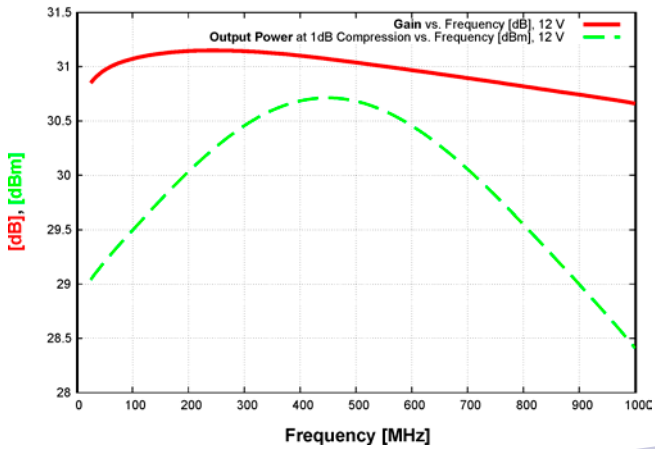
BBA-15



BBA-100, BBA-100-VG



BBA-1W



Low-Noise Power Supplies for BBA Series

Model	Input	Output
PS-BBA-09-EU	230 V AC, European standard	+9 V DC
PS-BBA-09-WW	100 - 240 V AC, for worldwide usage	+9 V DC
PS-BBA-12-WW	100 - 240 V AC, for worldwide usage	+12 V DC
PS-BBA-15-WW	100 - 240 V AC, for worldwide usage	+15 V DC

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