

2 W Booster Amplifier Module 5 ... 900 MHz, 50 Ω

Features

- output power +34 dBm typ.
- high IP3 +49 dBm typ.
- high IP2
- open/ short stable
- L/HF suppression
- wide DC supply range
- optical supply indication

Applications

- VHF/ UHF transmitters
- PA driver amplifier
- ISM
- laboratory
- test equipment
- instrumentation



At a Glance

AMP590033 from Becker Nachrichtentechnik is a compact high dynamic booster amplifier module suitable for frequencies from 5 MHz to 900 MHz in 50 Ohm technology.

Excellent RF Characteristics

The high output power and an excellent 3rd order intercept point in combination with a low noise figure make this module suitable for applications with high demands.

Signal Booster

The AMP590033 is especially designed to boost signal sources like signal generators with an output power of up to two watts. It offers a wide DC supply range which makes the amplifier suited for various fields of use.

It can be used in several areas of application, for example in laboratories, as a VHF/ UHF amplifier or as test equipment.

Robust Design

AMP590033 features a compact module design with integrated passive cooling. It is robust against mismatches which can occur in operation with complex loads. The DC supply input is reverse polarity protected; thereby inadvertently damage of the module is prevented.

This product is available in two different versions. They differ in the type of the power connector (straight or angled). The module's version with angled power connector fits into typical 1 U enclosures

RF Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z^{out}		50		Ohm	
low frequency	f_{min}			5	MHz	
high frequency	f_{max}	900			MHz	
gain	S_{21}	14.5	17.5	18.5	dB	
gain ripple	ΔS_{21}		± 0.5	± 1.0	dB	$f \leq 700$ MHz
input return loss	S_{11}		-13	-10	dB	
output return loss	S_{22}		-12	-9	dB	
reverse isolation	S_{12}		-27	-23	dB	
1 dB compression	P_{1dB}	32.5	34.0		dBm	$f \leq 700$ MHz
	P_{1dB}	29.5	32.0		dBm	$f > 700$ MHz
3 rd order intercept	$OPIP3^1$	42	47		dBm	$f < 20$ MHz
	$OPIP3^1$	45	49		dBm	$f \geq 20$ MHz
2 nd order intercept	$OPIP2^1$	65	80		dBm	
harmonic distortion	A_H^2	30	40		dBc	$f \geq 10$ MHz
noise figure	NF		4	7	dB	$f \geq 50$ MHz
maximum input power	$P_{in,max}$			+25	dBm	output terminated with 50 Ohm
RF connectors						SMA female

Note 1: tested at $P_{OUT} 2x +13$ dBm; $\Delta f = 1$ MHz

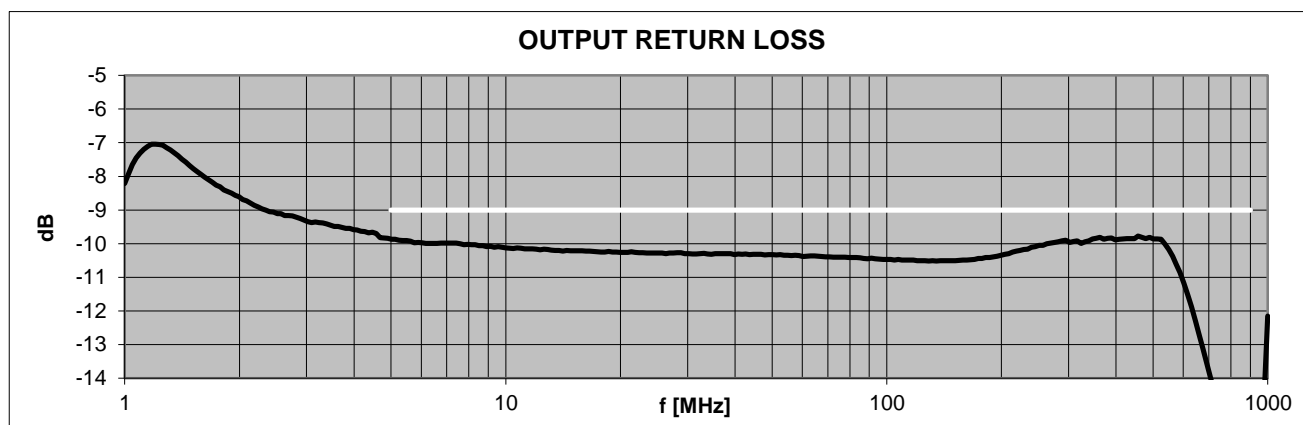
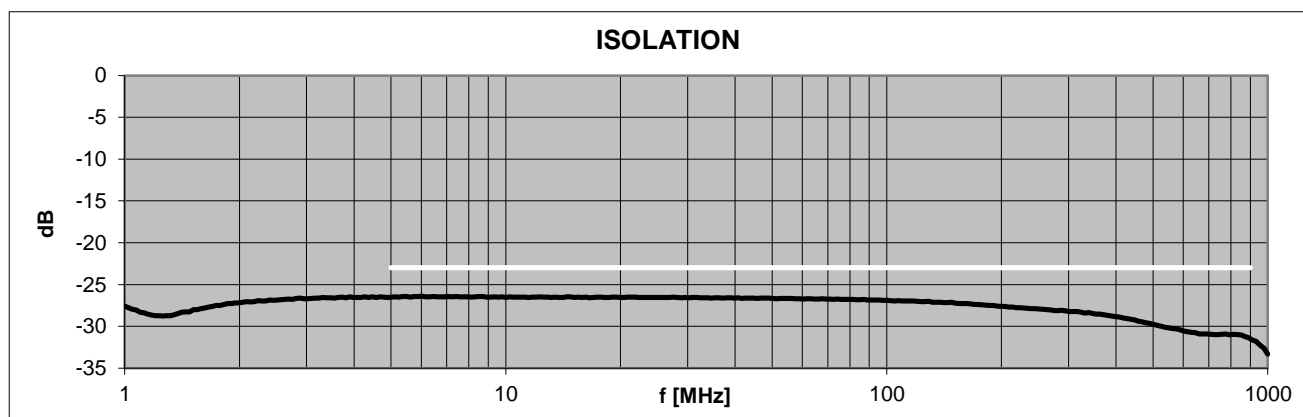
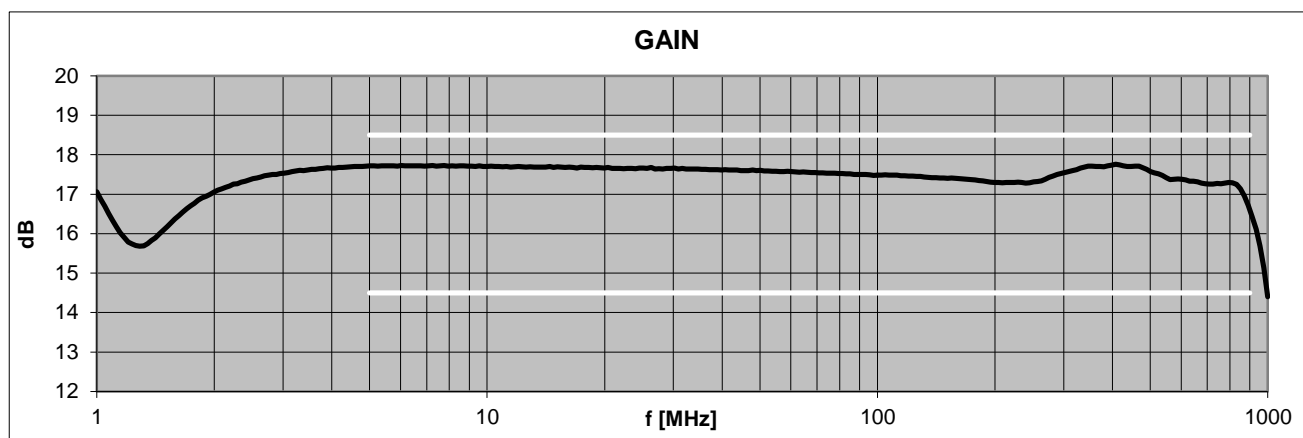
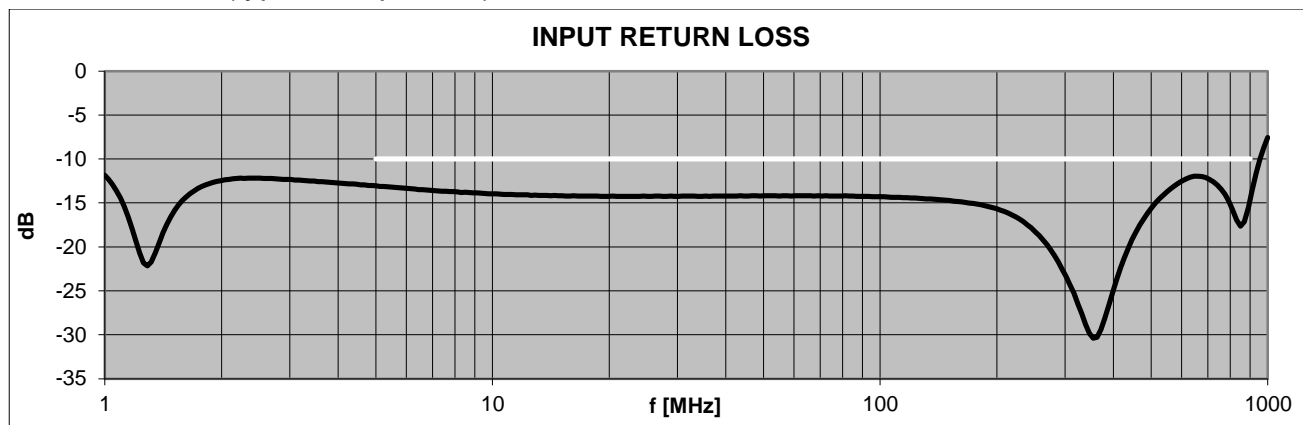
Note 2: 1st and 2nd tested at $P_{out} +30$ dBm fundamental

Common Specifications

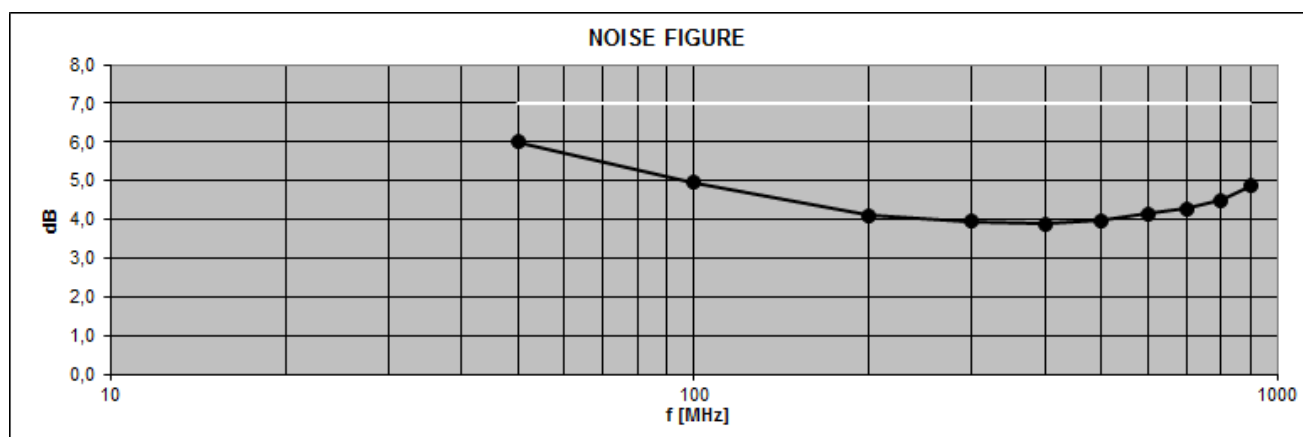
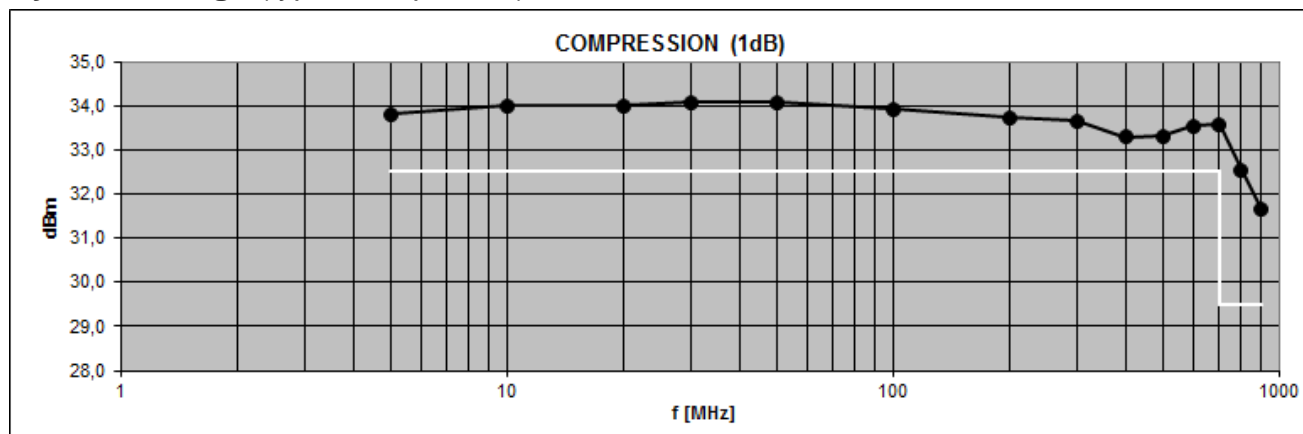
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	U	11		28	V	DC
current consumption	I	250		750	mA	I_{min} at +28 V
	I	620	650	680	mA	At +12V
dimensions	L x W x H	approx. 99 x 75 x 36			mm	
weight	m	350			g	
recommend power plug		NSG396M-2				included accessories
operating temp. range	T_o	-20		+65	°C	ambiance
storage temp. range	T_s	-40		+70	°C	
ordering information		AMP590033		0901.5011.1		straight power connector
		AMP590033		0901.5011.2		angled power connector



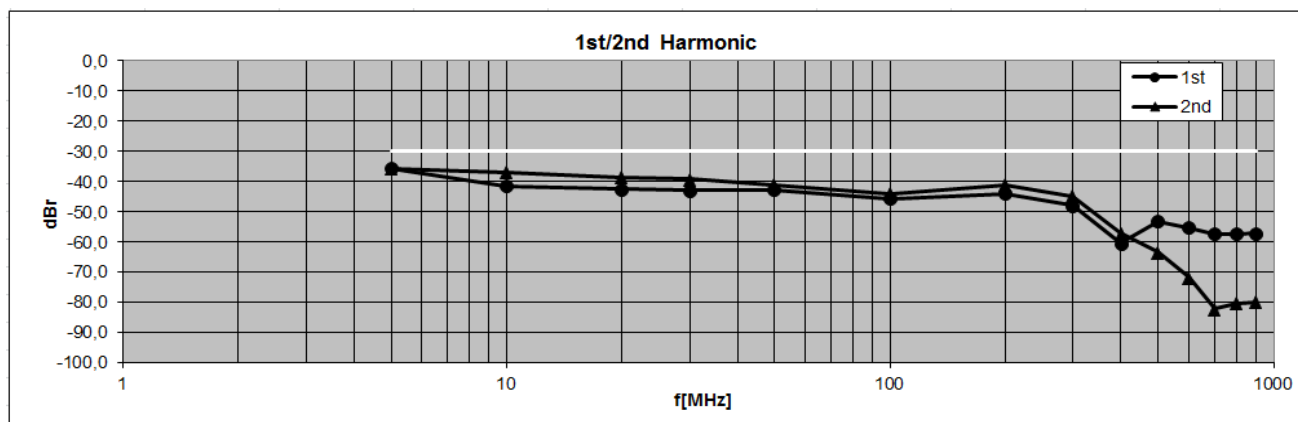
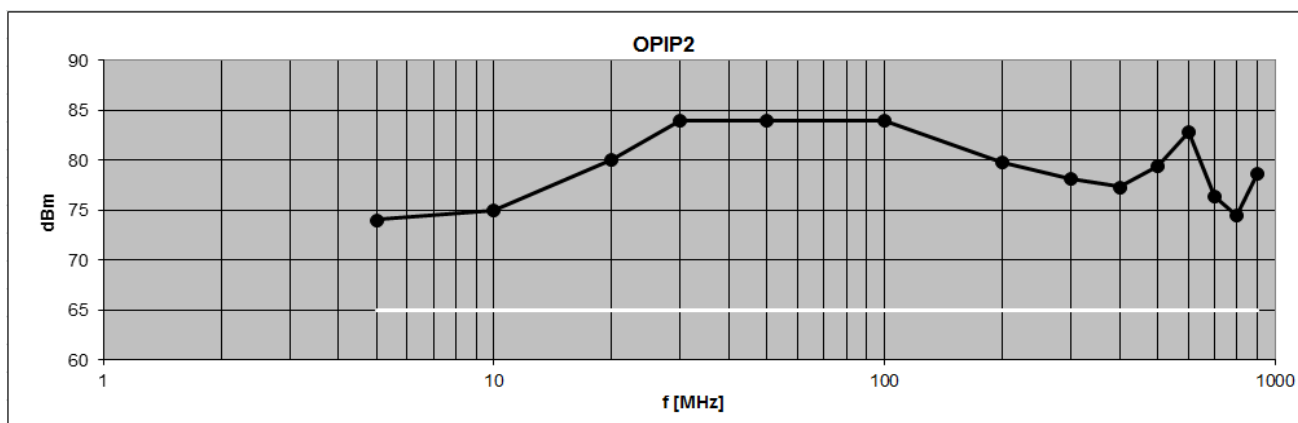
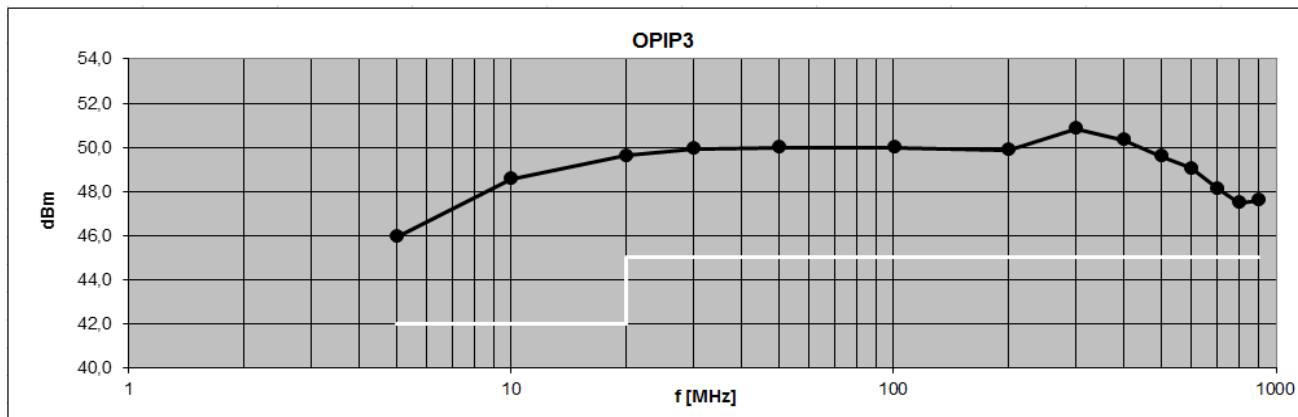
S-Parameters (typical responses)



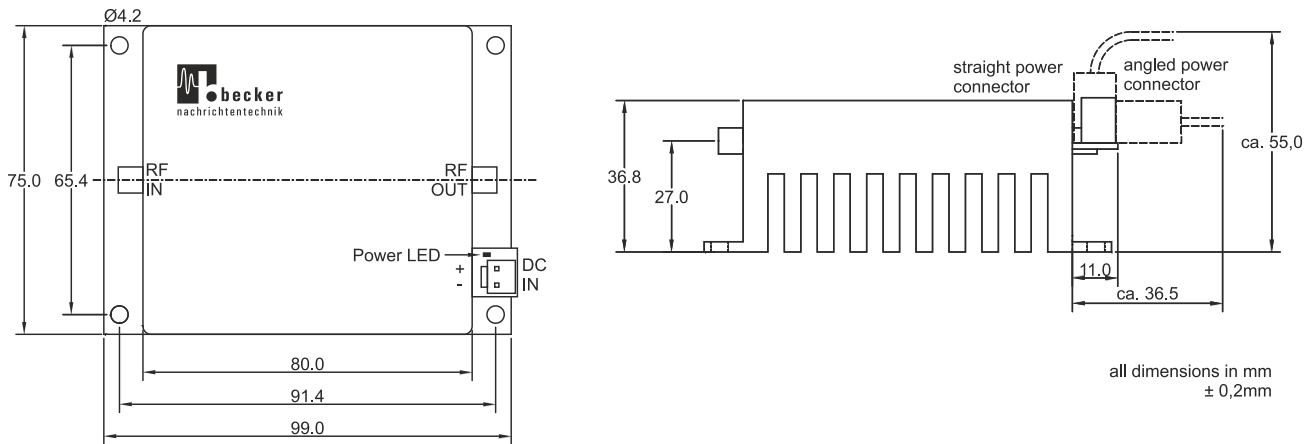
Dynamic Range (typical responses)



Linearity (typical responses)



Dimensions



Related Products

Product	Description	P/N
AMP018032	1 W Medium Power Amplifier Module 100 kHz ... 80 MHz, 50 Ω	1002.5701.1
LNA1080014	High Dynamic Range Amplifier Module 10 ... 800 MHz, 50 Ω	0901.5501.1
AMP590033H	2 W Power Amplifier Module 5 ... 900 MHz, 50 Ω	0901.5001.1
AMP5270026	High Dynamic Amplifier Module 5 ... 2700 MHz, 50 Ω	1005.5201.1
AMP5220031	High Dynamic Amplifier Module 5 ... 2200 MHz, 50 Ω	1005.5101.1
AMP20280035	4.5 W Wideband Amplifier Module 20 ... 2800 MHz, 50 Ω	1209.5001.1
AMP10850026	500 mW Wideband Amplifier Module 10 ... 8500 MHz, 50 Ω	1305.5001.1
AMP5170033	Extremely High Linearity Amplifier Module 5 ... 1700 MHz, 50 Ω	1401.5011.1
AMP1053043H	20 W Power Amplifier Module 10 ... 530 MHz, 50 Ω	1001.5001.1