

2 W Power Amplifier 5 ... 900 MHz, 50 Ω

Features

- output power +34 dBm typ.
- high IP3 +49 dBm typ.
- high gain
- open/ short stable
- transient protected
- L/HF suppression
- 110 V and 230 V AC mains supply

Applications

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

At a Glance

AMP590033H-T from Becker Nachrichtentechnik is a compact high dynamic amplifier suitable for frequencies from 5 MHz to 900 MHz in 50 Ohm technology.

Excellent Dynamic

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

Versatile Use

The amplifier's design offers various fields of use. The high gain allows maximum output power with an input power of approximate 0 dBm. AMP590033H-T is especially designed for application in the VHF and the lower UHF range. An internal high pass filter at the amplifier input avoids influences of signals in the low frequency range.



Robust design

AMP590033H-T features a compact design. It is robust against mismatches which can occur when operating with complex loads. Especially in physical experiments this feature is of particular importance.

The device is supplied by mains voltage and is equipped with N female connectors. This allows for a straightforward connection of the amplifier.

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}	26.5	30.0	33.0	dB	
gain ripple	ΔS_{21}		± 1.0	± 1.5	dB	$f \leq 700$ MHz
low frequency response	S_{21}			-70	dB	100 kHz, rel. 100 MHz
	S_{21}			-25	dB	1 MHz, rel. 100 MHz
input return loss	S_{11}		-18	-12	dB	
output return loss	S_{22}		-12	-9	dB	
reverse isolation	S_{12}		-48	-40	dB	
1 dB compression	P_{1dB}	33	34		dBm	$f \leq 700$ MHz
	P_{1dB}	30	33		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	90		dBm	
harmonic distortion	HD		-40	-30	dBc	1 st and 2 nd at +30 dBm Fundamental
noise figure	NF		3.0	5.0	dB	$f \geq 10$ MHz
maximum input power	$P_{in max}$			+20	dBm	output terminated with 50 Ohm
RF connectors						N female

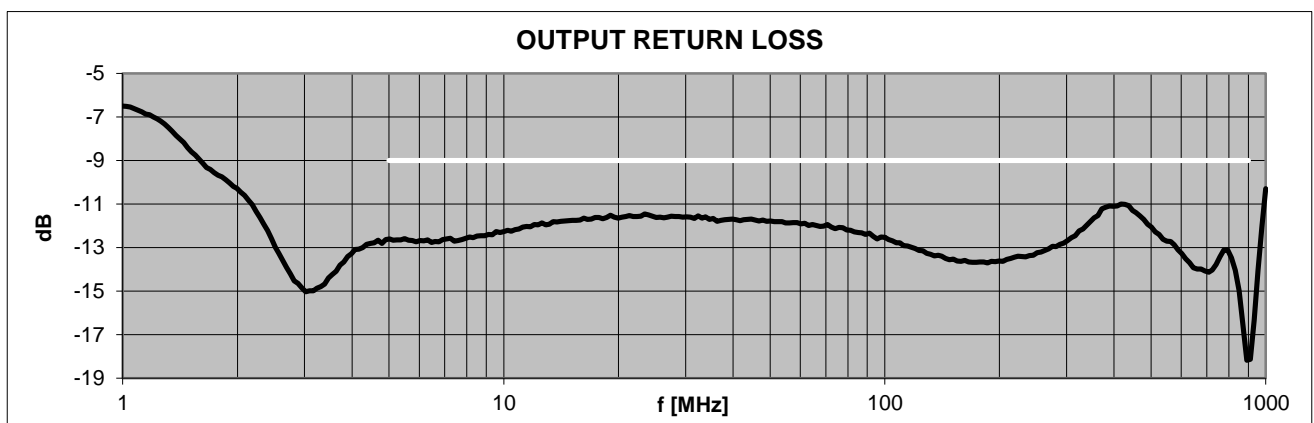
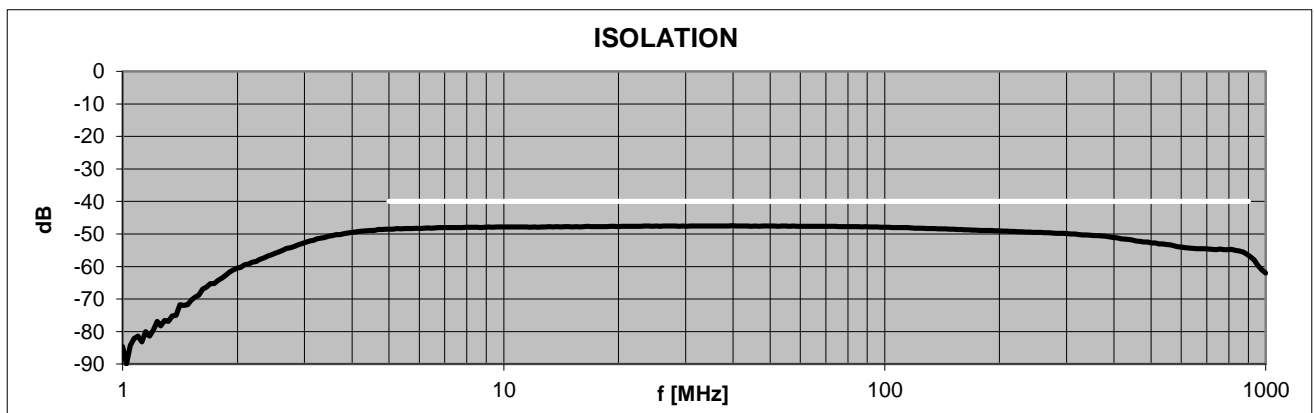
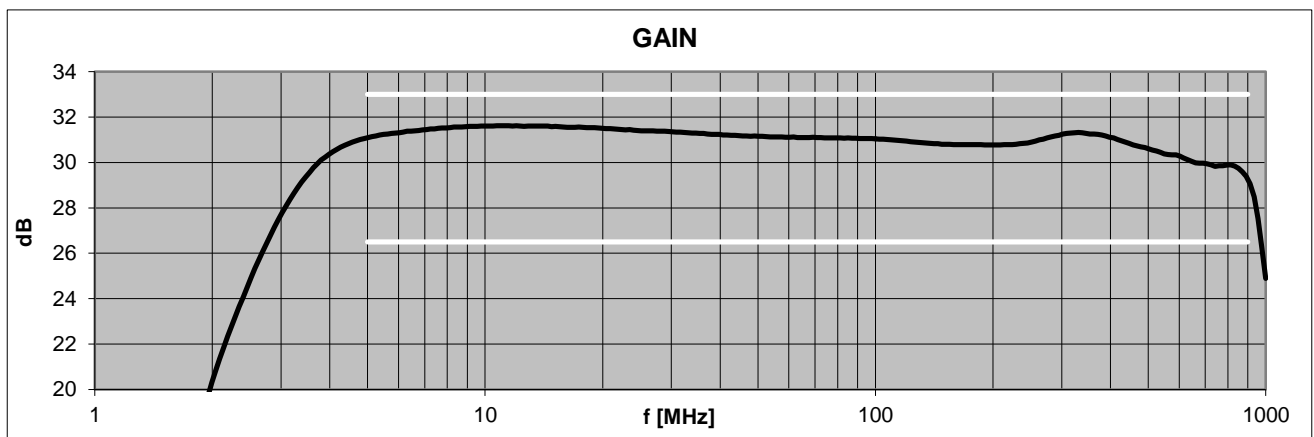
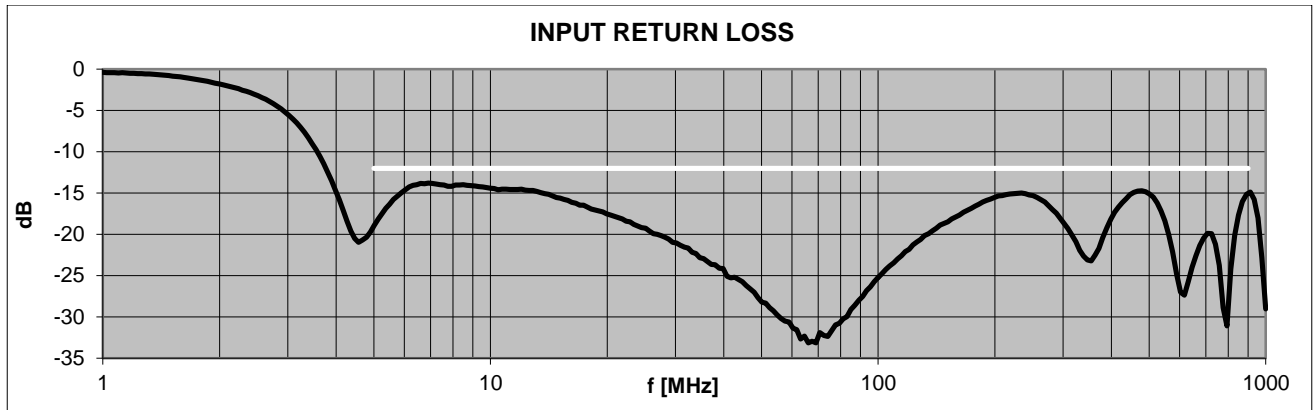
Note 1: Tested at $P_{out} 2 \times +13$ dBm; $\Delta f = 1$ MHz

Common Specifications

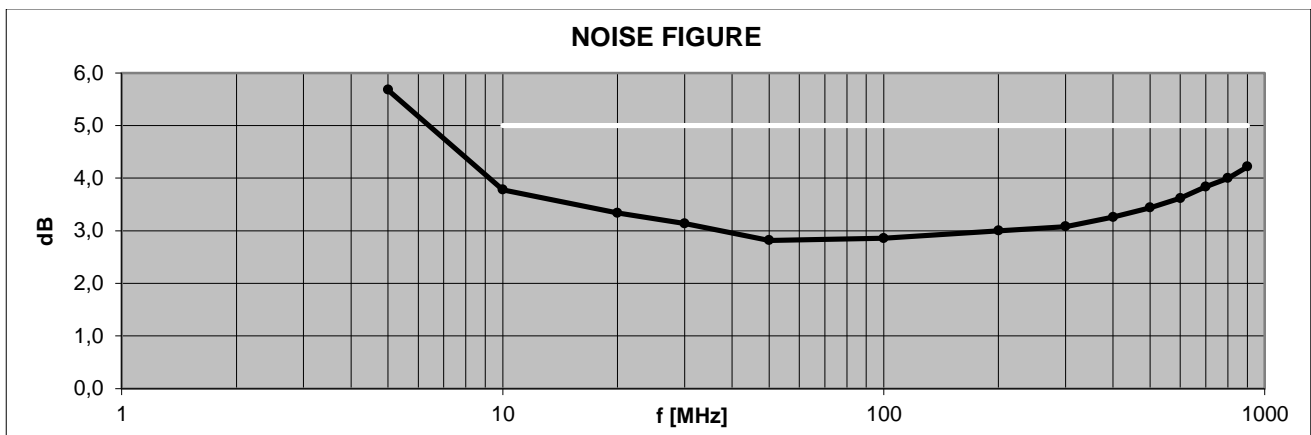
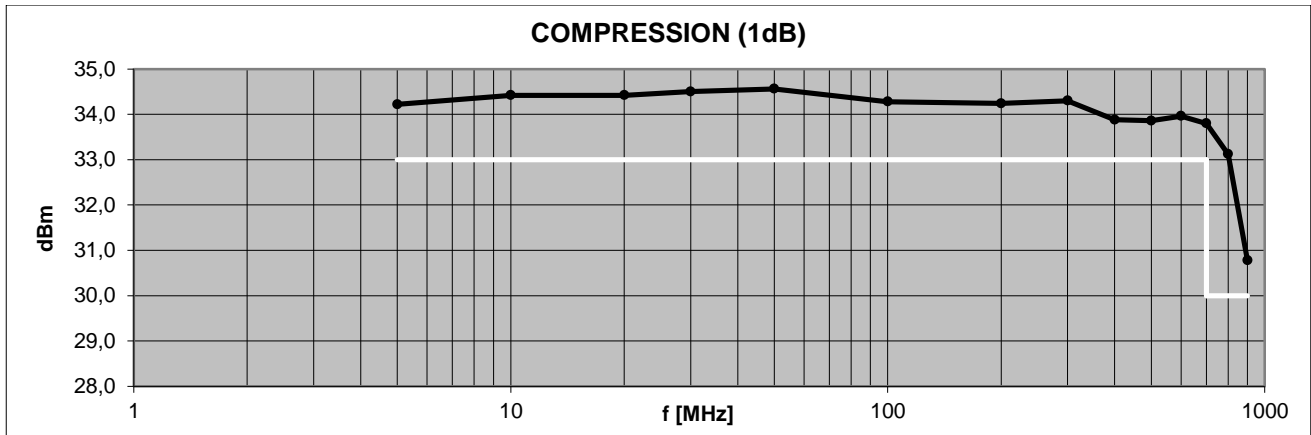
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
power supply	U	90		260	V	AC
	f	50		400	Hz	
power consumption	P		25		VA	
dimensions	L x W x H	approx. 175 x 115 x 95			mm	length without connectors
weight	m		1500		g	
operating temp. range	T_o	+5		+40	°C	ambiance
storage temp. range	T_s	-40		+70	°C	
ordering information	AMP590033H-T			0901.5003.1		



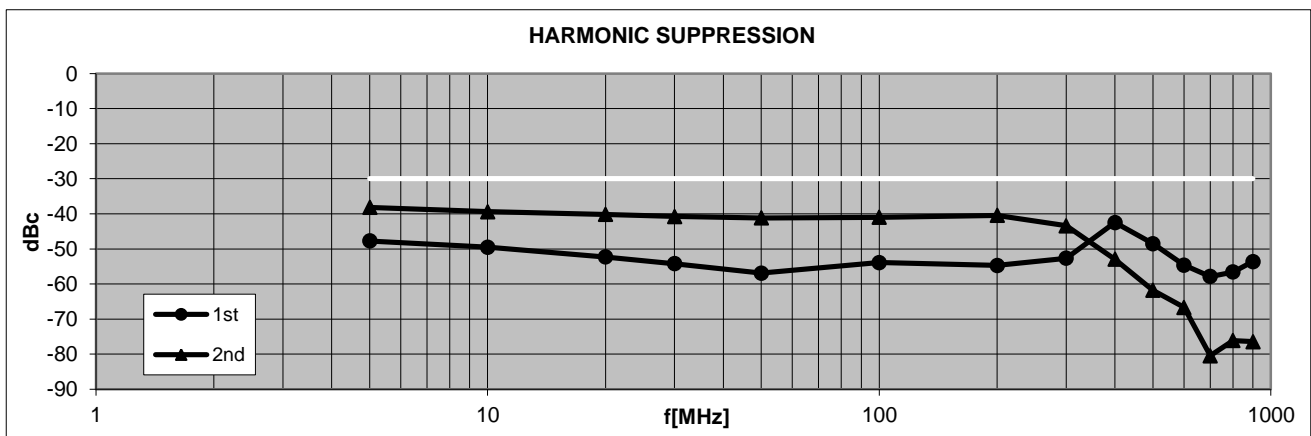
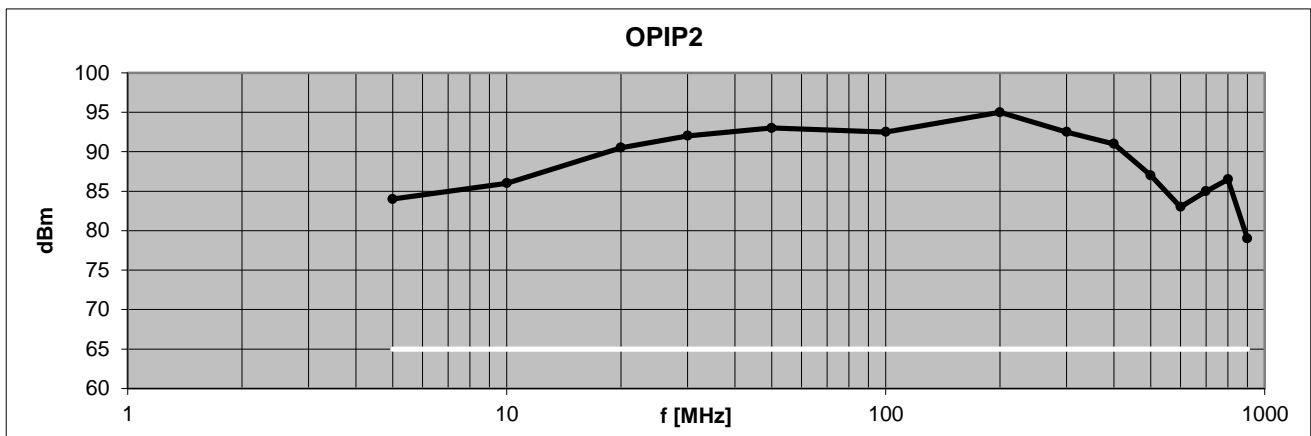
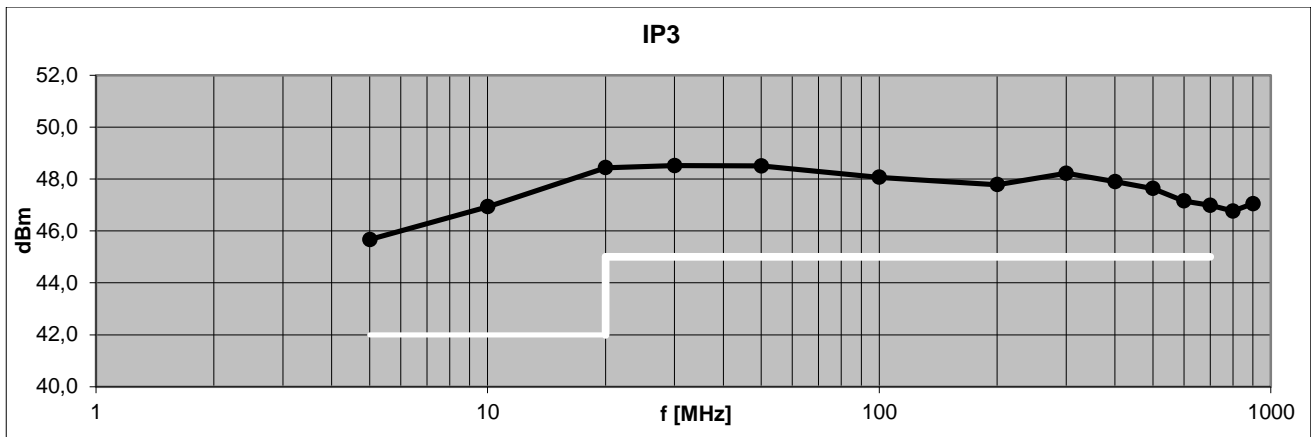
S-Parameters (typical responses)



Dynamic Range (typical responses)



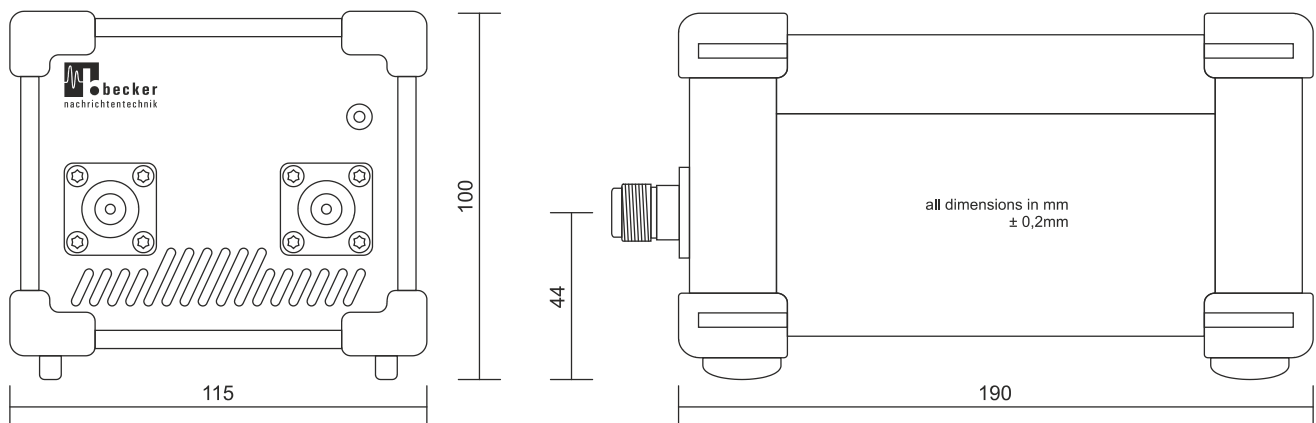
Linearity (typical responses)



Front / Rear View



Dimensions



Related Products

Product	Description	P/N
AMP018032-T	1 W Medium Power Amplifier 100 kHz ... 80 MHz, 50 Ω	1002.5703.1
LNA1080014-T	High Dynamic Range Amplifier 10 ... 800 MHz, 50 Ω	0901.5503.1
AMP590033-T	2 W Booster Amplifier 5 ... 900 MHz, 50 Ω	0901.5013.1
AMP5270026-T	High Dynamic Amplifier 5 ... 2700 MHz, 50 Ω	1005.5203.1
AMP5220031-T	High Dynamic Amplifier 5 ... 2200 MHz, 50 Ω	1005.5103.1
AMP20280035-T	4.5 W Wideband Amplifier 20 ... 2800 MHz, 50 Ω	1209.5003.1
AMP10850026-T	500 mW Wideband Amplifier 10 ... 8500 MHz, 50 Ω	1305.5003.1

