AMP590033-T

2 W Booster Amplifier 5 … 900 MHz, 50 Ω

Features

- output power +34 dBm typ.
- high IP3 +49 dBm typ.
- high IP2
- open/ short stable
- 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

AMP590033-T from Becker Nachrichtentechnik is a compact high dynamic booster amplifier 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 device suitable for applications with high demands.

Signal Booster

The amplifier´s design offers various fields of use. AMP590033-T is especially designed to boost signal sources like signal generators with an output power of up to two watts. 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-T features a compact design. It is robust against mismatches which can occur when operating with complex loads.
The device is supplied by mains voltage and is equipped with N female connectors. This allows for a straightforward connection of the amplifier.
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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 ≤ 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		dBm	f ≤ 700 MHz
	P_{1dB}	29.5	32		dBm	f > 700 MHz
3rd order intercept	OPIP3[1]	42	47		dBm	f < 20 MHz
	OPIP3[1]	45	49		dBm	f ≥ 20 MHz
2nd order intercept	OPIP2[1]	65	80		dBm	
harmonic distortion	HD	30	40		dBc	f ≥ 10 MHz
noise figure	NF		4	7	dB	f ≥ 50 MHz
maximum input power	$P_{in\ max}$			+25	dBm	output terminated with 50 Ohm
RF connectors						N female

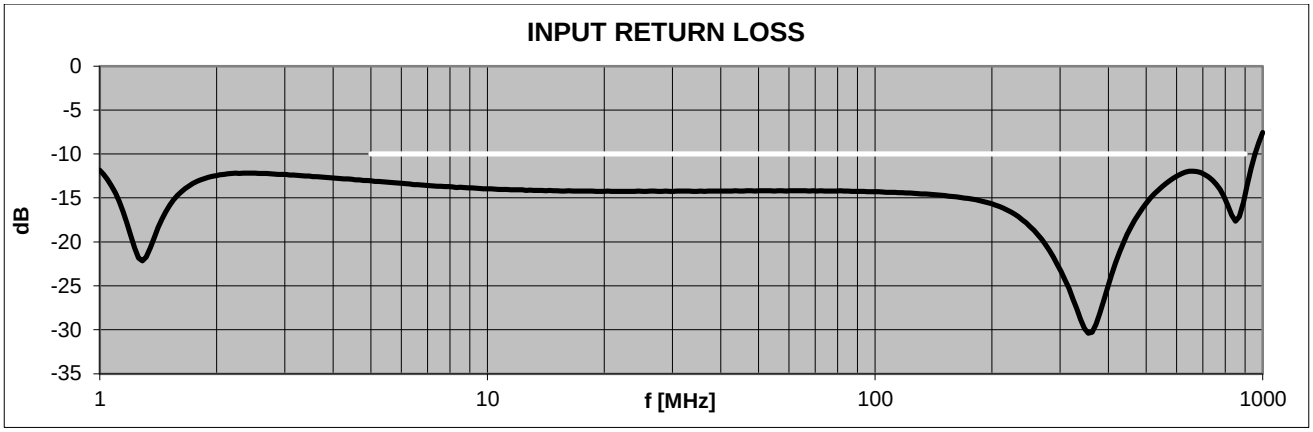
Note 1: Tested at P_{OUT} 2 x +13 dBm; Δf = 1 MHz

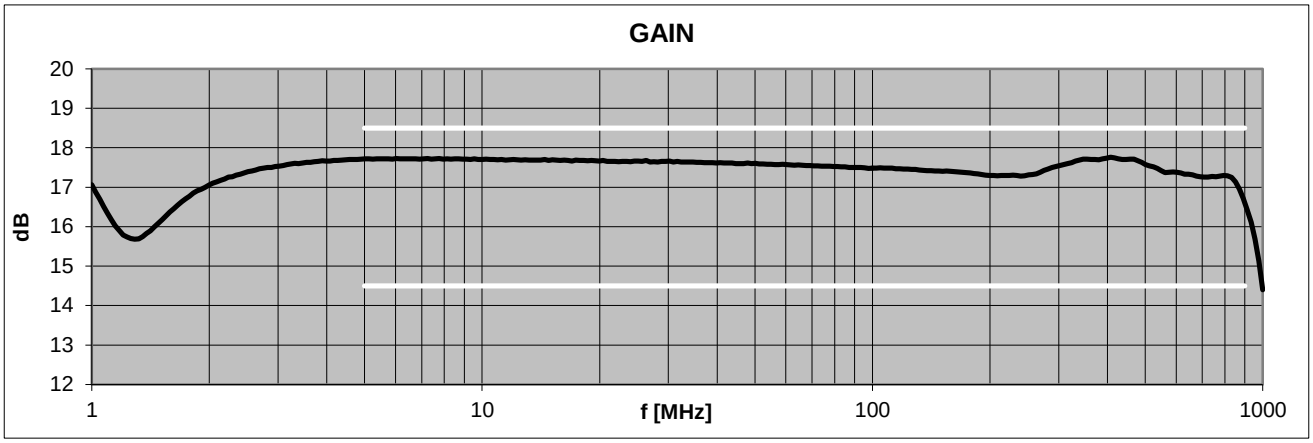
Note 2: 1st and 2nd tested at P_{out} +30 dBm fundamental

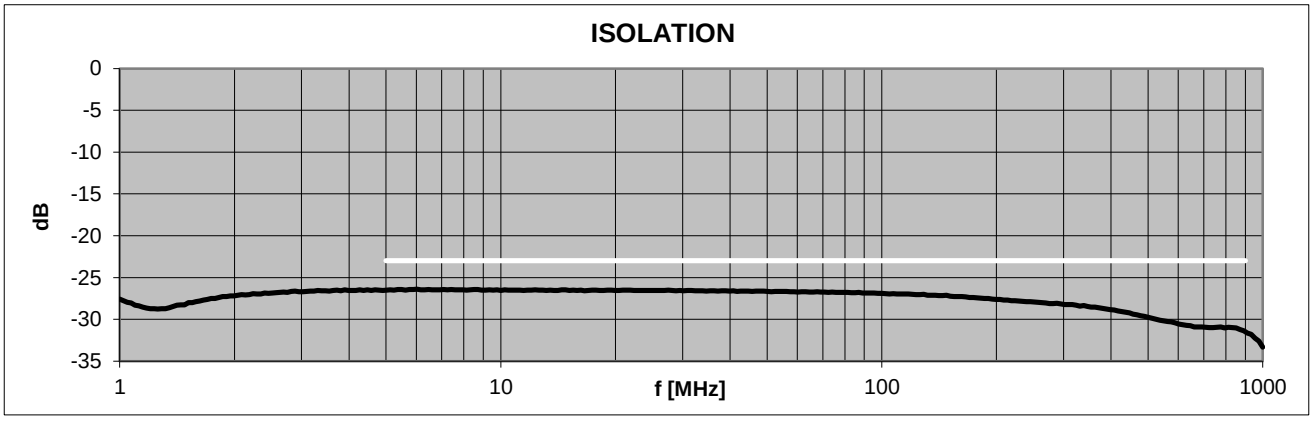
Common Specifications

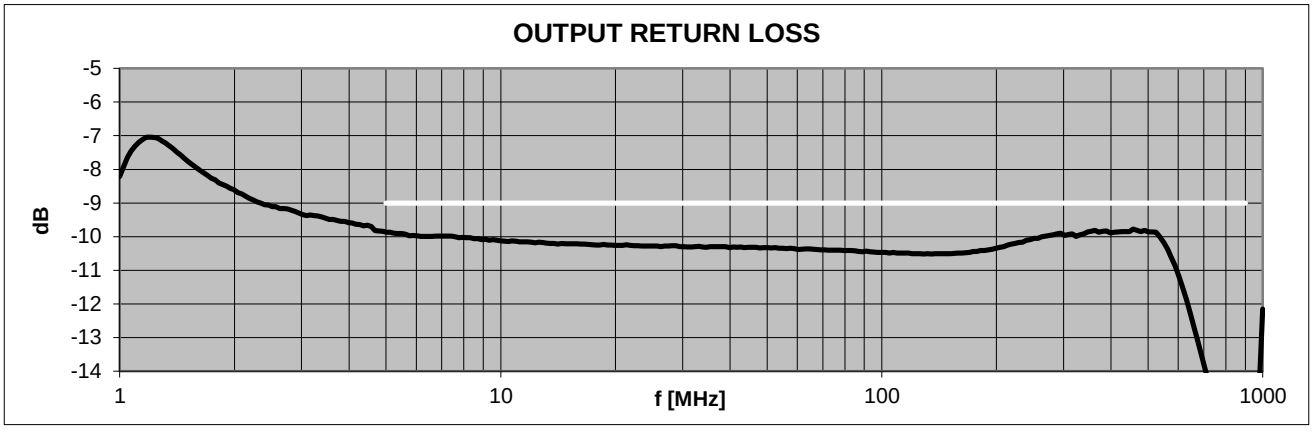
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
power supply	U	90		260	V	AC
	f	50		400	Hz	
power consumption	P		21		VA	
dimensions	L x W x H	approx. 175 x 115 x 95			mm	length without connectors
weight	m		1500		g	
operating temp. range	T_o	+5		+40	°C	ambiance
storage temp. range	T_s	-40		+70	°C	
ordering information	AMP590033-T			1209.5003.1		

S-Parameters (typical responses)

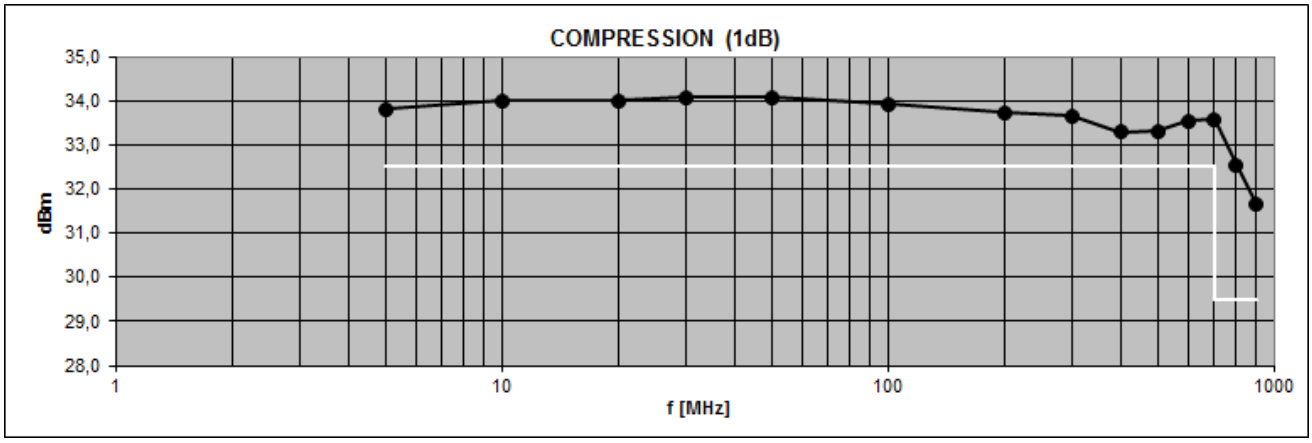


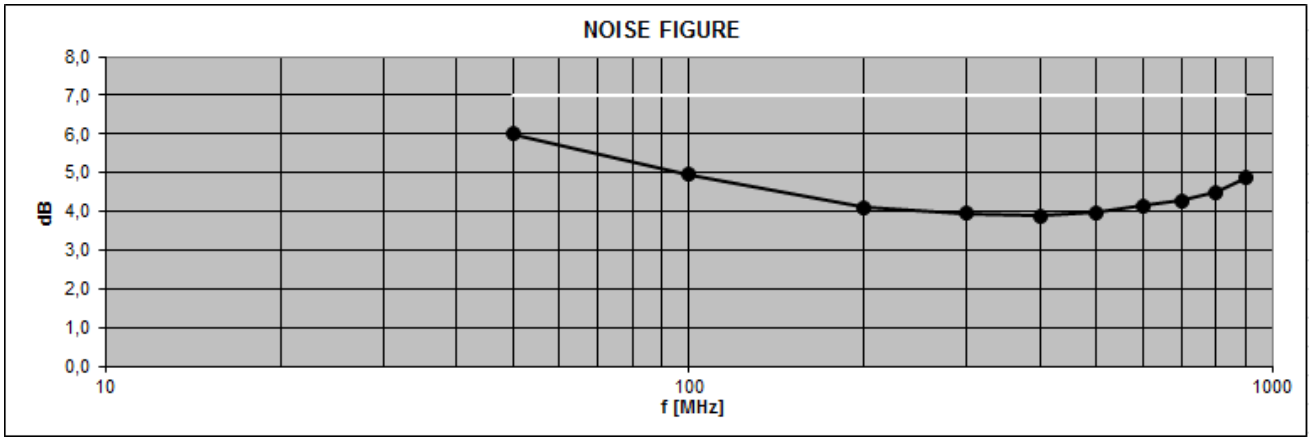




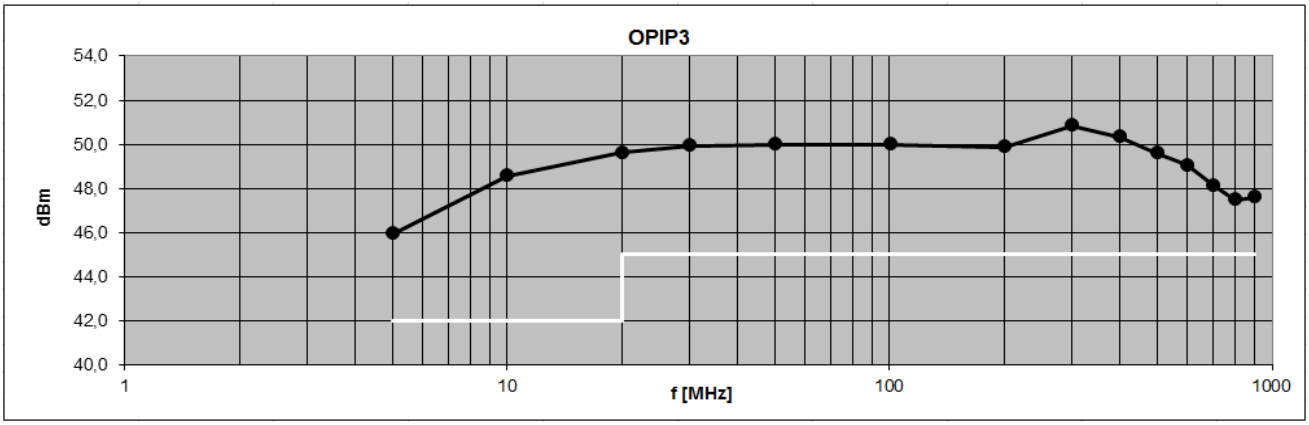


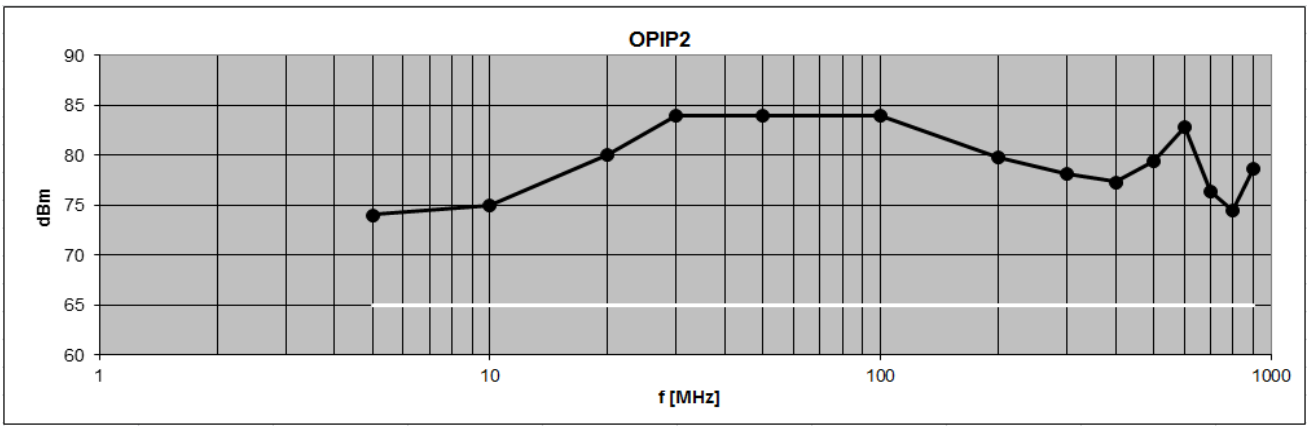
Dynamic Range (typical responses)

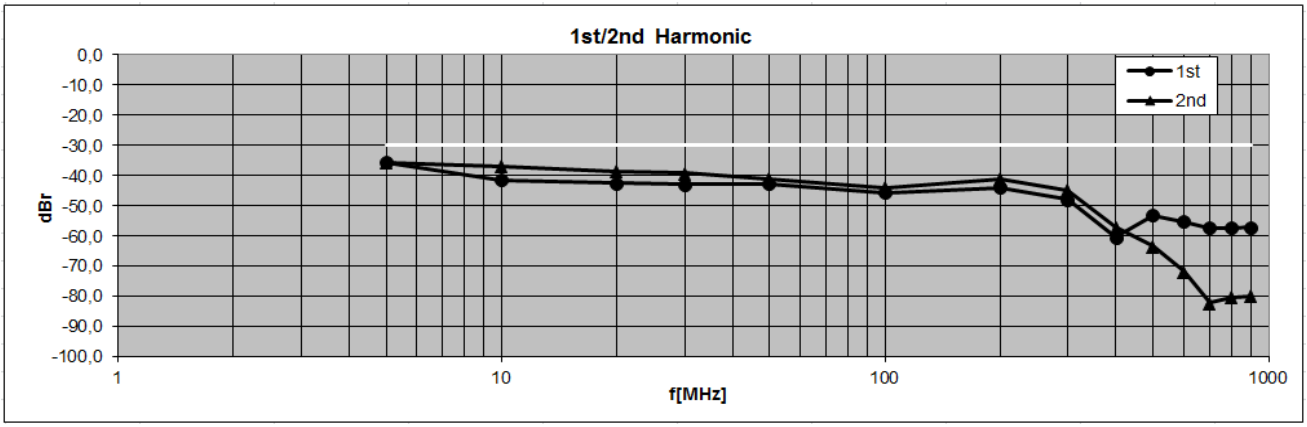




Linearity (typical responses)

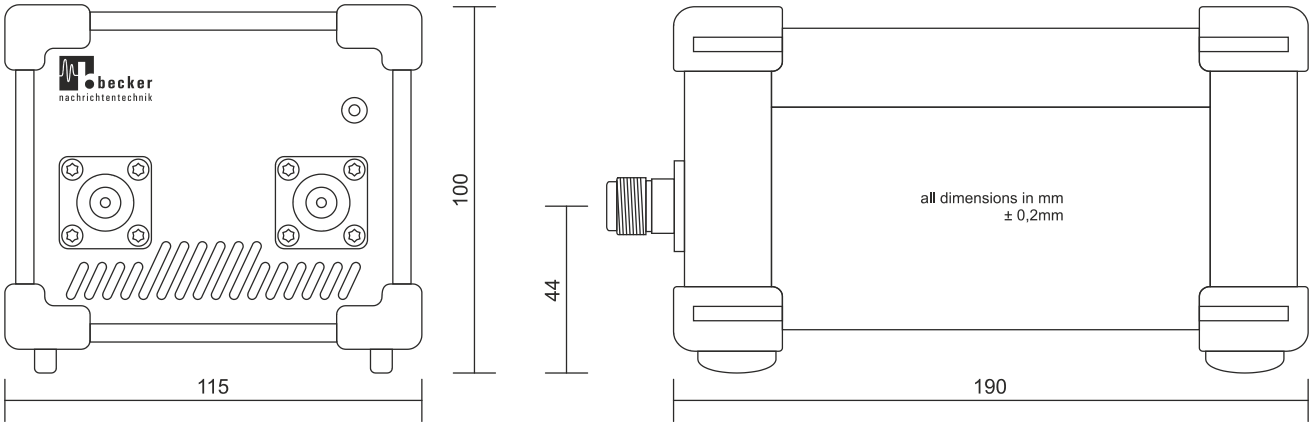






Front / Rear View

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
AMP590033H-T	2 W Power Amplifier 5 … 900 MHz, 50 Ω	0901.5003.1
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