

High Dynamic Range Amplifier 10 ... 800 MHz, 50 Ω

Features

- output power +28 dBm typ.
- high IP3
- open / short stable
- transient protected
- L/HF suppression
- 110 V and 230 V AC mains supply

Applications

- VHF/ UHF preamplifier
- ISM
- laboratory
- test equipment
- instrumentation



At a Glance

LNA1080014-T from Becker Nachrichtentechnik is a compact high dynamic amplifier suitable for frequencies from 10 MHz to 800 MHz. It is designed in 50 Ohm technology.

Excellent Dynamic

The high 3rd order intercept point in combination with an extraordinary low noise figure makes this amplifier suitable for applications with highest demands.

LNA1080014-T is especially designed for VHF/UHF preamplifier applications. An internal high pass filter at the input of the amplifier avoids influences of signals in the low frequency range.

Robust Design

LNA1080014-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.

RF Specifications

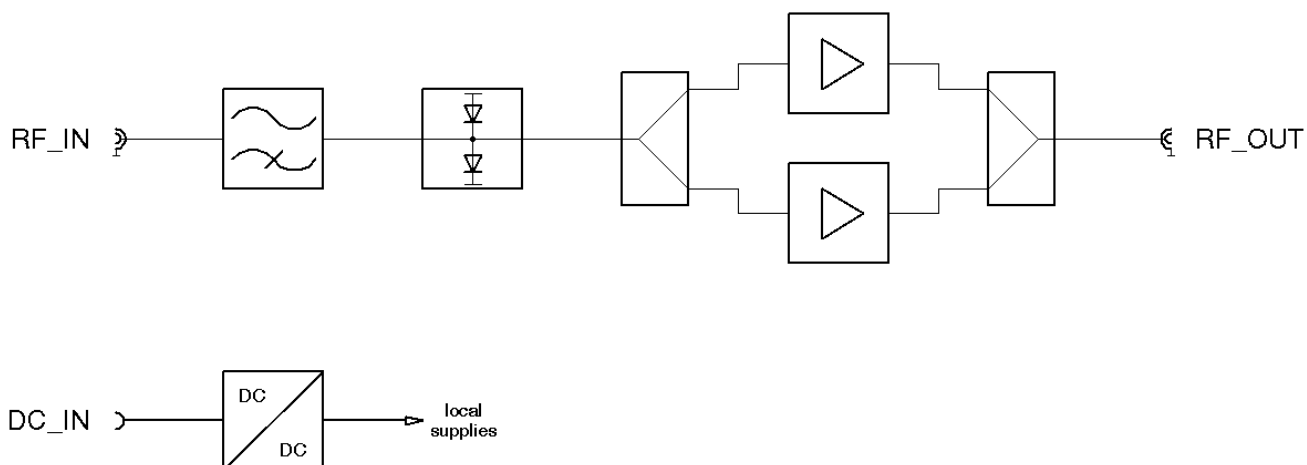
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z_{out}		50		Ohm	
low frequency	f_{min}		5	10	MHz	
high frequency	f_{max}	800	1000		MHz	
gain	S_{21}	12.0	13.5	15.0	dB	
gain ripple	ΔS_{21}		± 0.6	± 1.0	dB	
low frequency response	S_{21}			-70	dB	100 kHz, rel. 100 MHz
	S_{21}			-25	dB	1 MHz, rel. 100 MHz
input return loss	S_{11}		-20	-12	dB	
output return loss	S_{22}		-23	-12	dB	
reverse isolation	S_{12}		-19	-17	dB	
1 dB compression	P_{1dB}	26	28		dBm	
3 rd order intercept	$OIP3^1$	43	48		dBm	
2 nd order intercept	$OIP2^1$	65	80		dBm	
noise figure	NF		2.5	4.0	dB	
maximum input power	$P_{in,max}$			+20	dBm	output terminated with 50 Ohm
RF connectors						N female

Note 1: Tested at P_{in} 2 x 0 dBm; $\Delta f = 1$ MHz

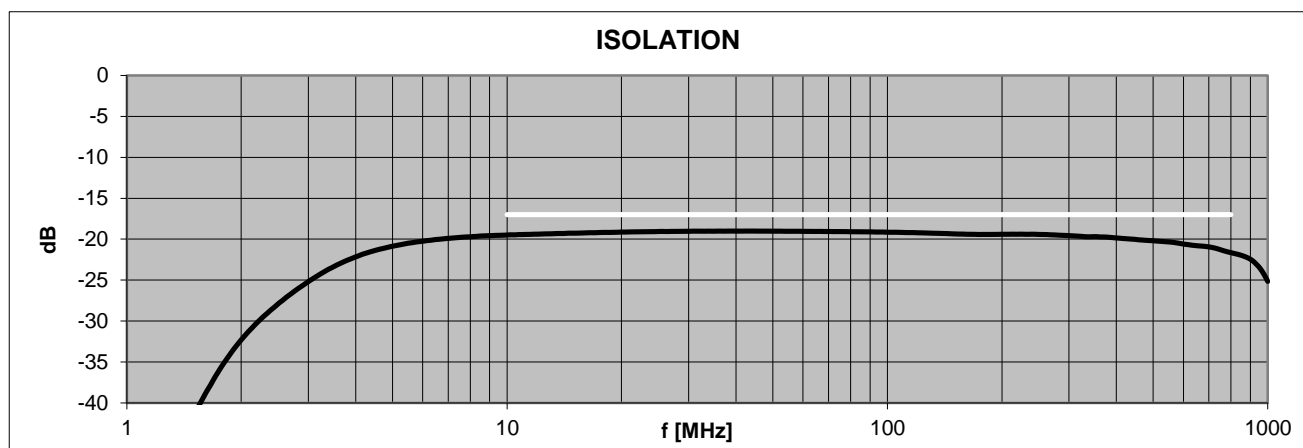
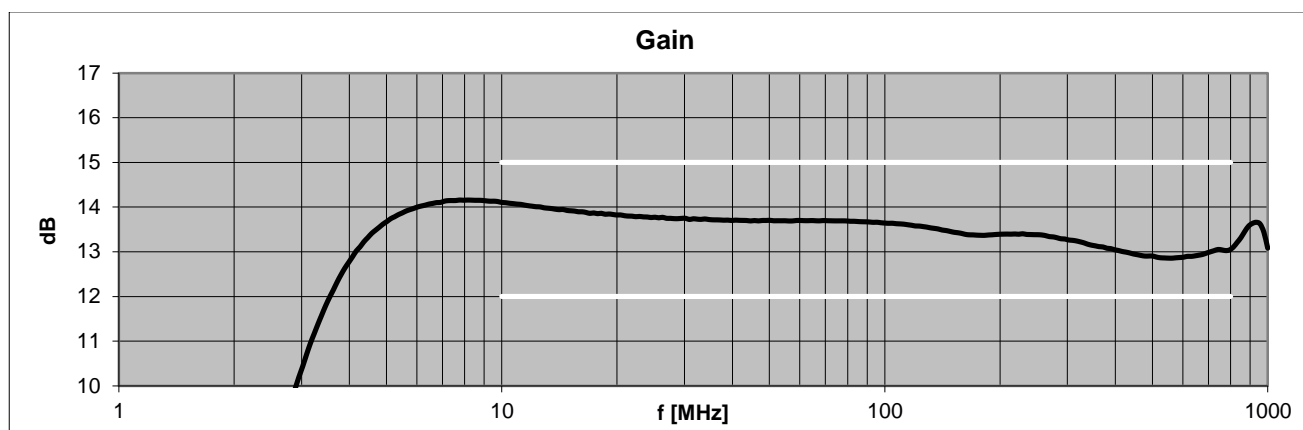
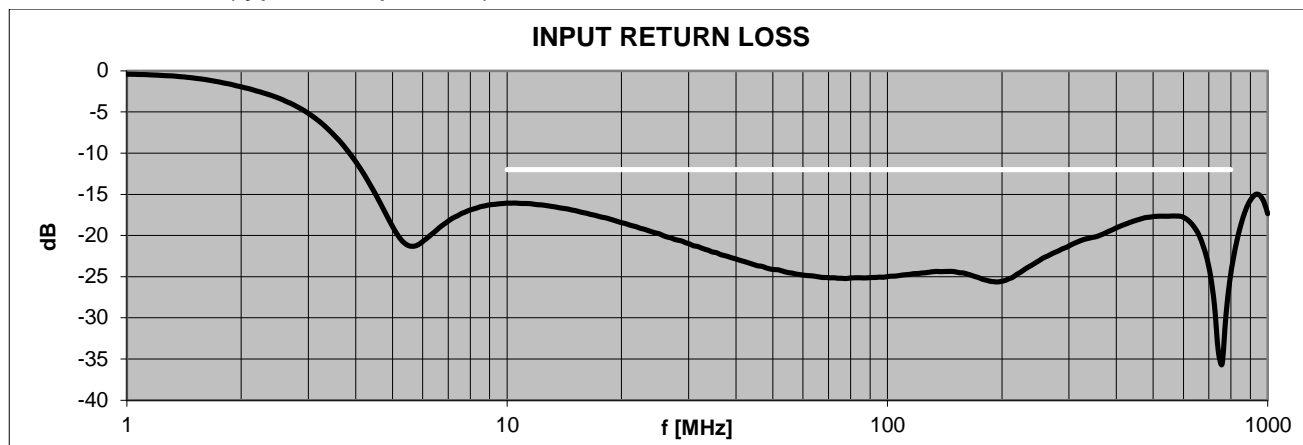
Common Specifications

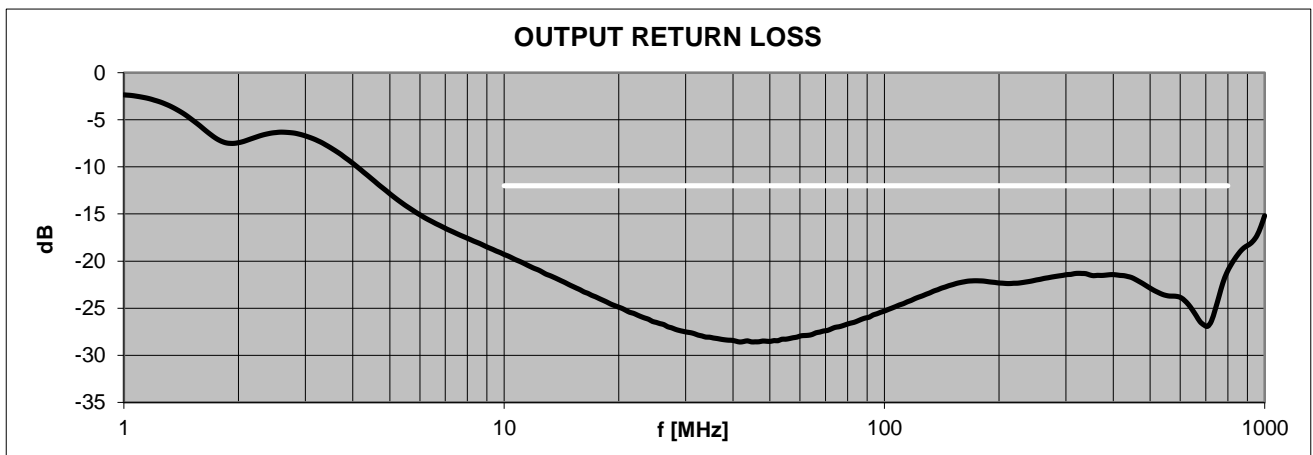
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
power supply	U	90		260	V	AC
	f	50		400	Hz	
power consumption	P		12		VA	
dimensions	L x W x H	approx. 175 x 115 x 95			mm	length without connectors
weight	m		1500		g	
operating temp. range	T_o	+5		+40	°C	ambiance
storage temp. range	T_s	-40		+70	°C	
ordering information	LNA1080014-T			0901.5503.1		

Block Diagram

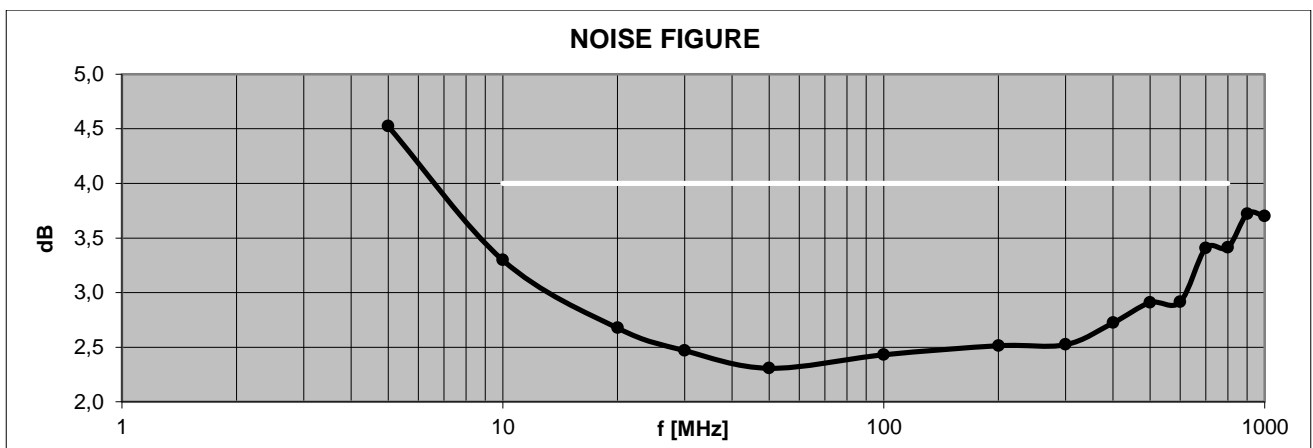
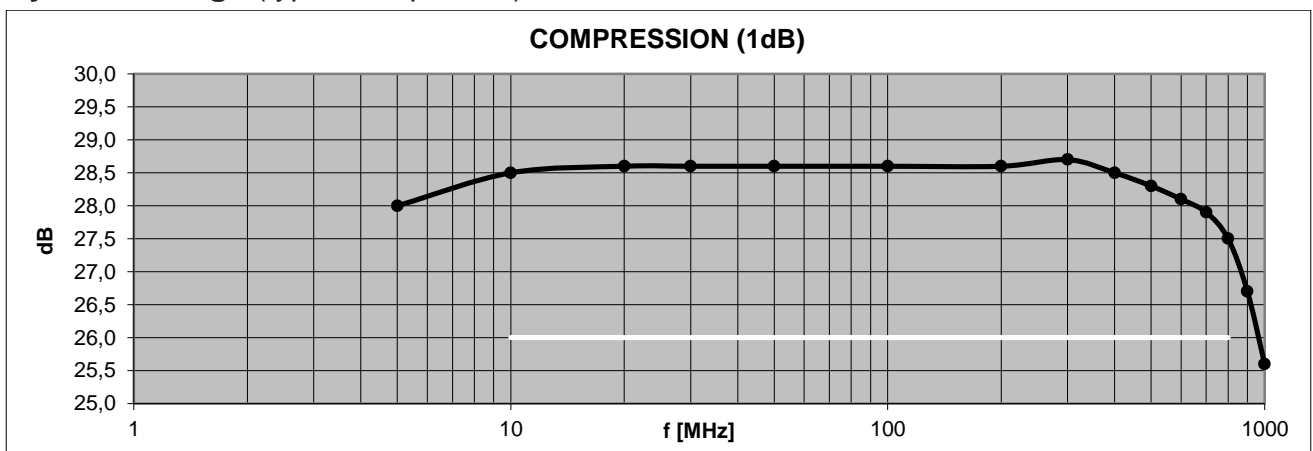


S-Parameters (typical responses)

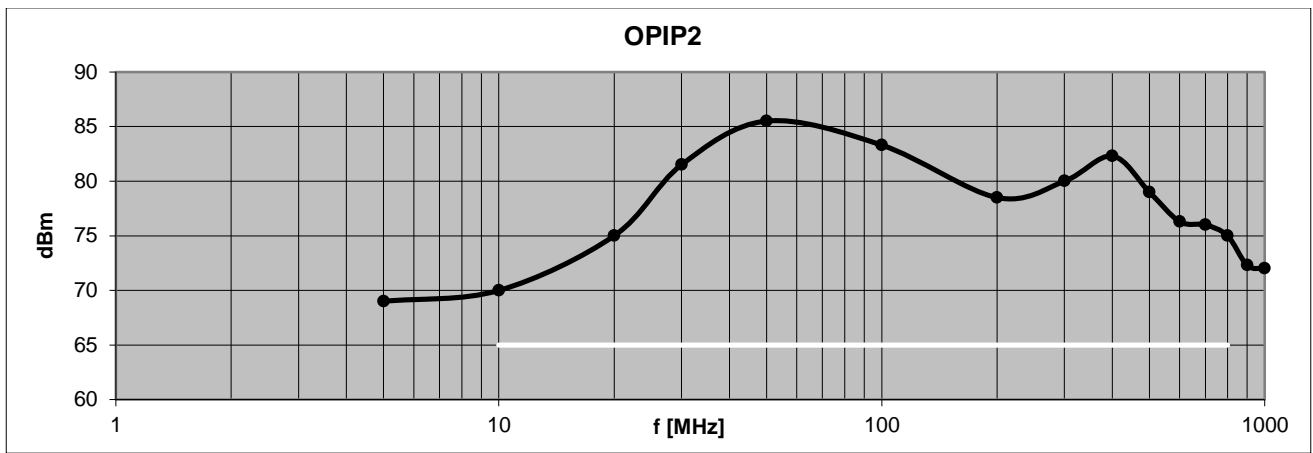
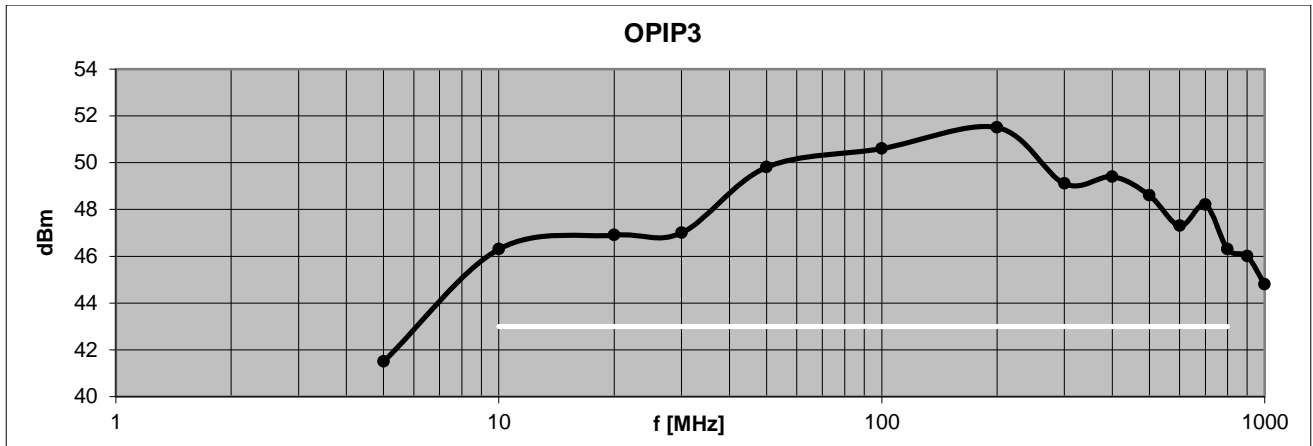




Dynamic Range (typical responses)



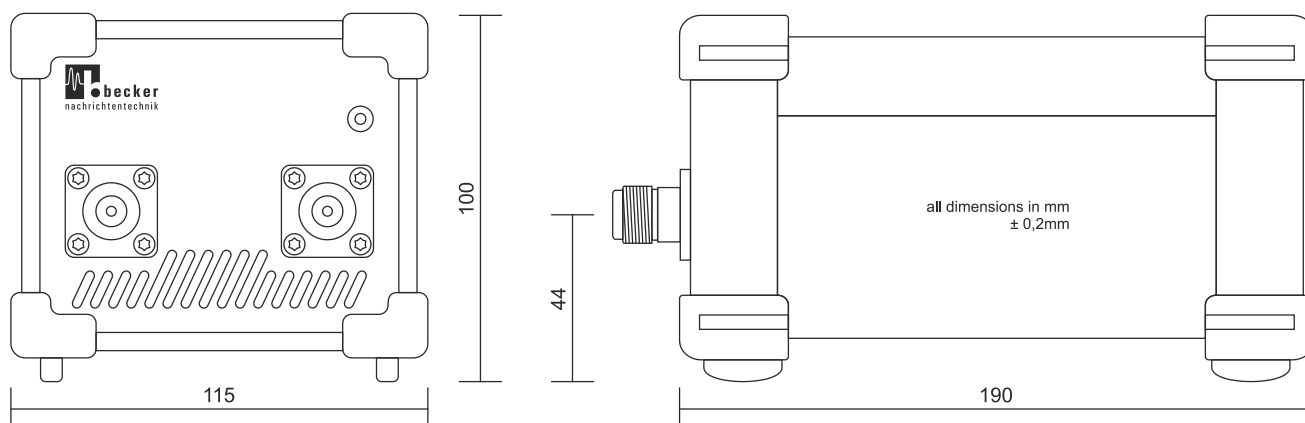
Linearity (typical responses)



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
AMP590033-T	2 W Booster Amplifier 5 ... 900 MHz, 50 Ω	0901.5013.1
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

