

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

## Features

- output power +28 dBm typ.
- high IP3
- open/short stable
- transient protected
- L/HF suppression
- wide DC supply range
- optical supply indication
- reverse polarity protected

## Applications

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



## At a Glance

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

## Excellent Dynamic

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

## Versatile Use

The amplifier's wide DC supply range enables various ways of operating the module. LNA1080014 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 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 angled power connector fits into typical 1 U enclosures.

## RF Specifications

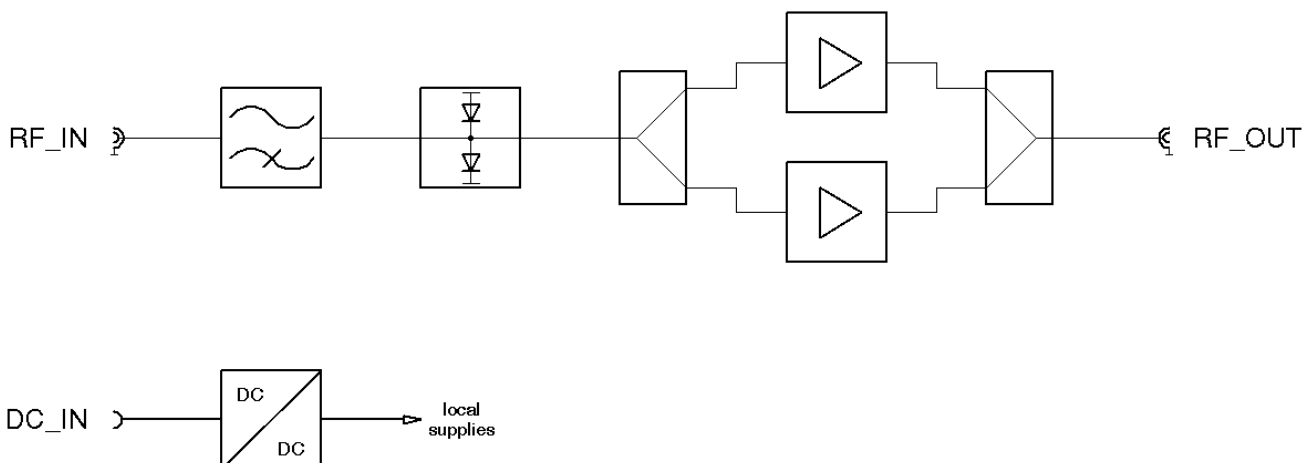
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	$Z_{in} / Z_{out}$		50		Ohm	
low frequency	$f_{min}$		5	10	MHz	
high frequency	$f_{max}$	800	1000		MHz	
gain	$S_{21}$	12.0	13.5	15.0	dB	
gain ripple	Delta $S_{21}$		$\pm 0.6$	$\pm 1.0$	dB	
low frequency response	$S_{21}$			-70	dB	100 kHz, rel. 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 <sup>rd</sup> order intercept	OIP3 <sup>1</sup>	43	48		dBm	
2 <sup>nd</sup> order intercept	OIP2 <sup>1</sup>	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						SMA female

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

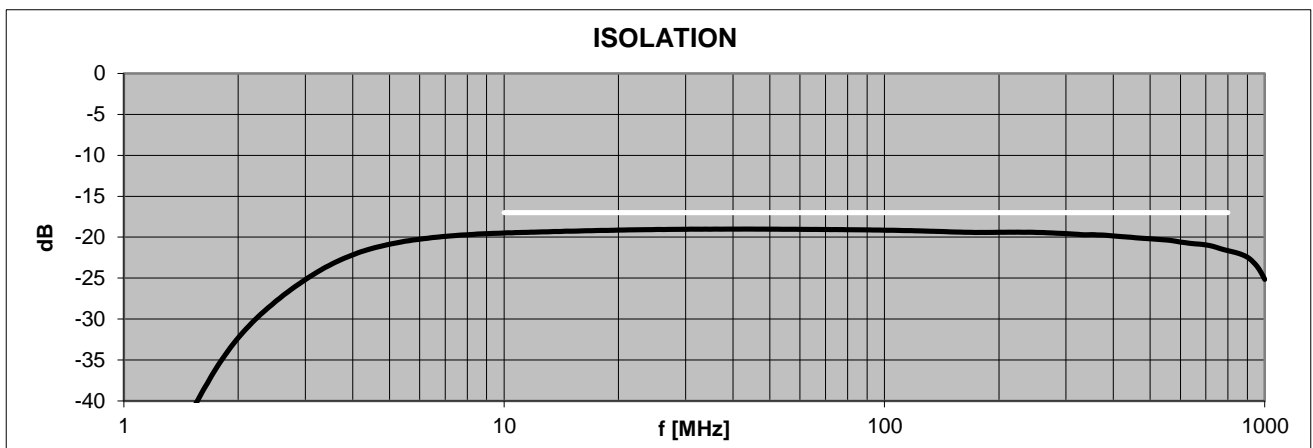
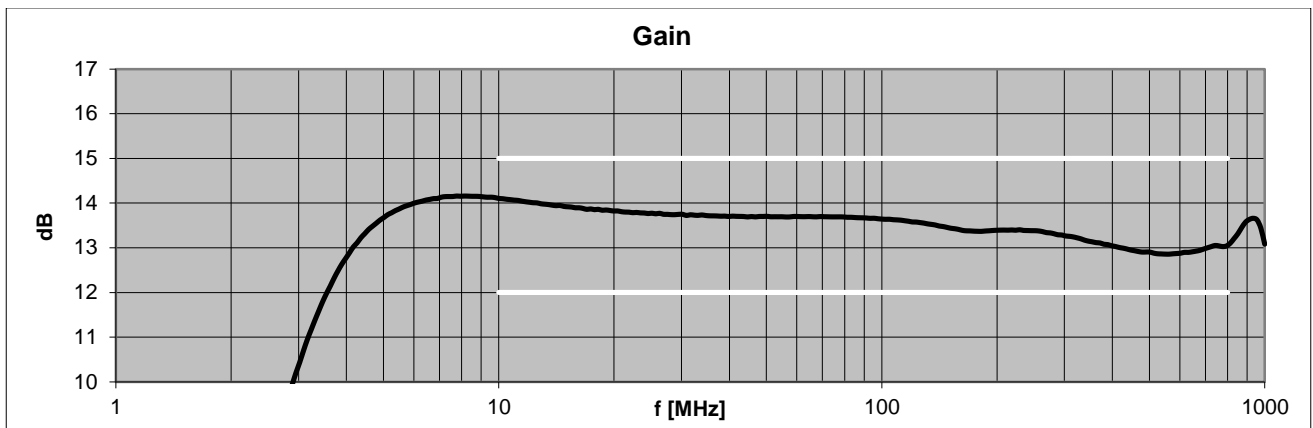
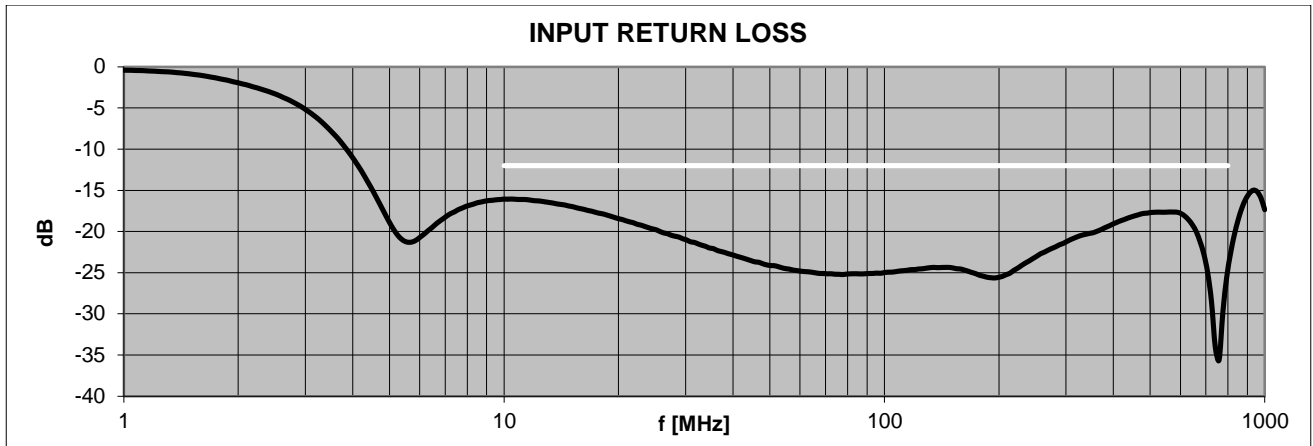
## Common Specifications

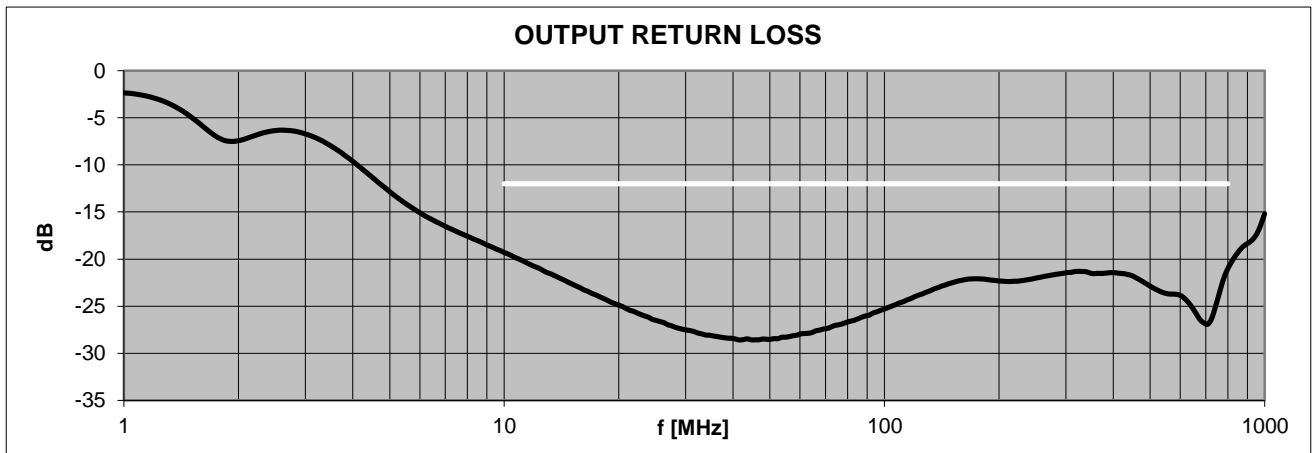
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	U	11		28	V	DC
current consumption	I	85		280	mA	$I_{min}$ at +28 V
	I	230	250	270	mA	at +12 V
dimensions	L x W x H	approx. 99 x 75 x 36			mm	
weight	m		350		g	
recommend power plug	NSG396M-2					included accessories
operating temp. range	$T_o$	-20		+65	°C	ambiance
storage temp. range	$T_s$	-40		+70	°C	
ordering information		LNA1080014		0901.5501.1		straight power connector
		LNA1080014		0901.5501.2		angled power connector

## Block Diagram

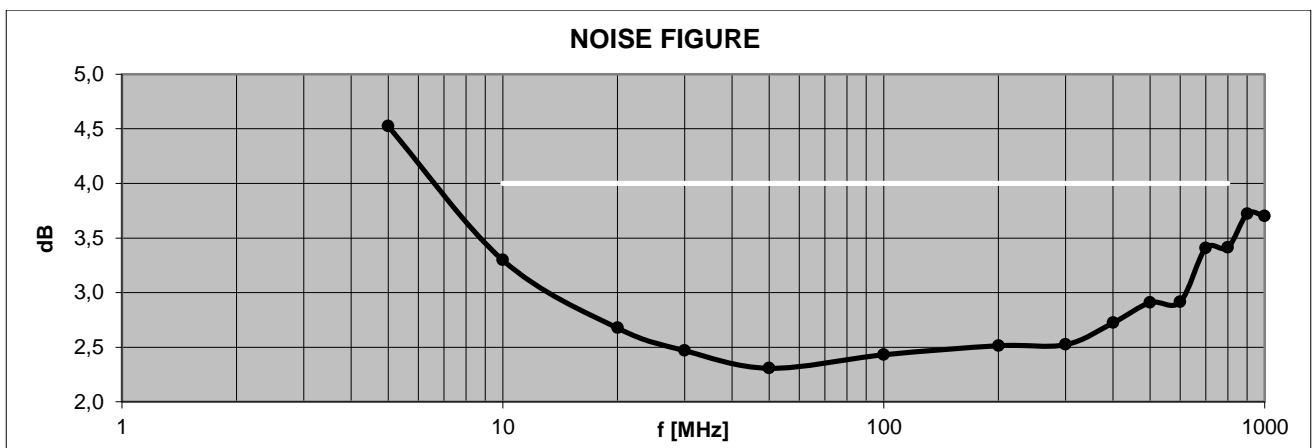
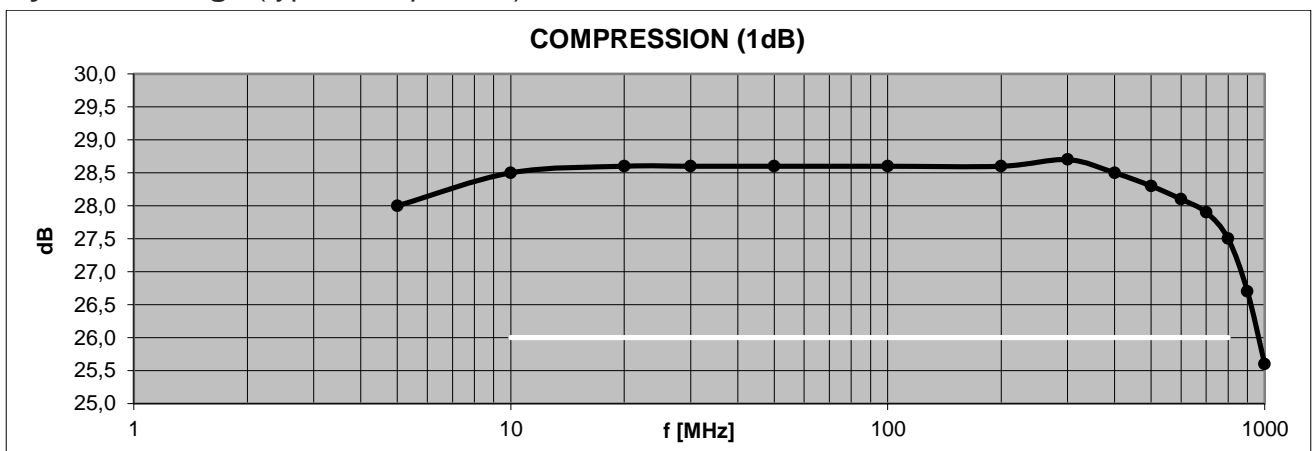


## S-Parameters (typical responses)

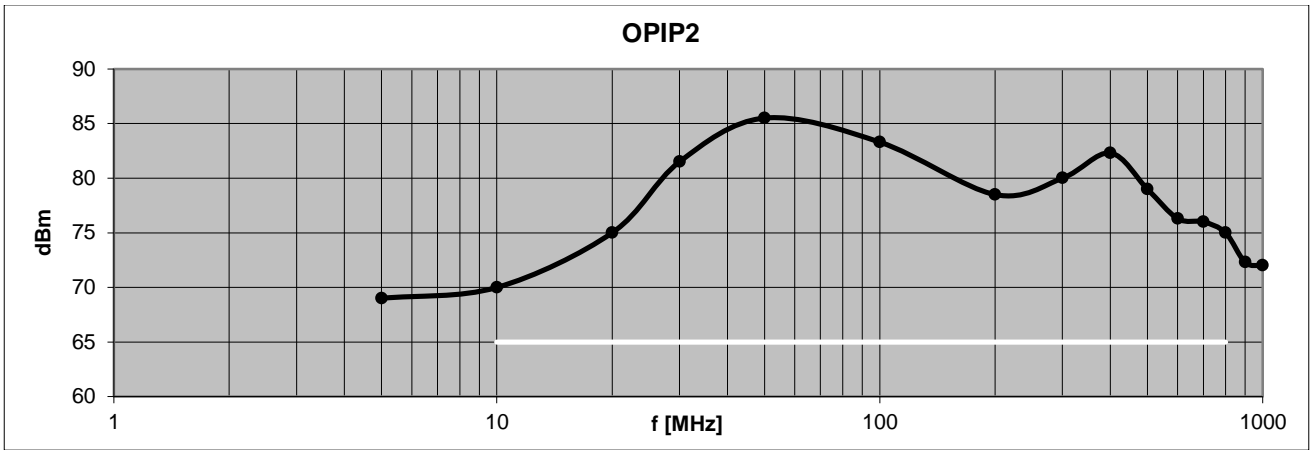
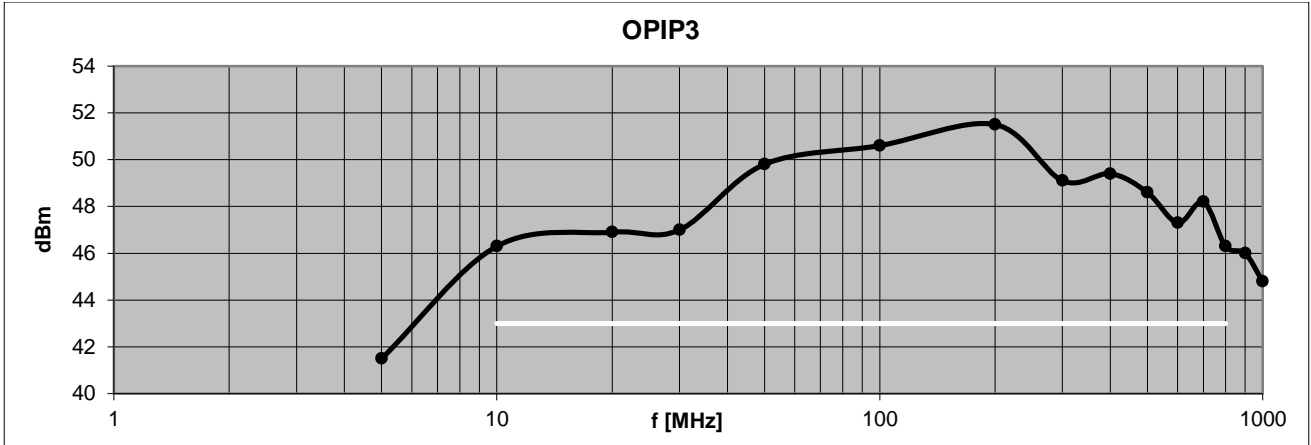




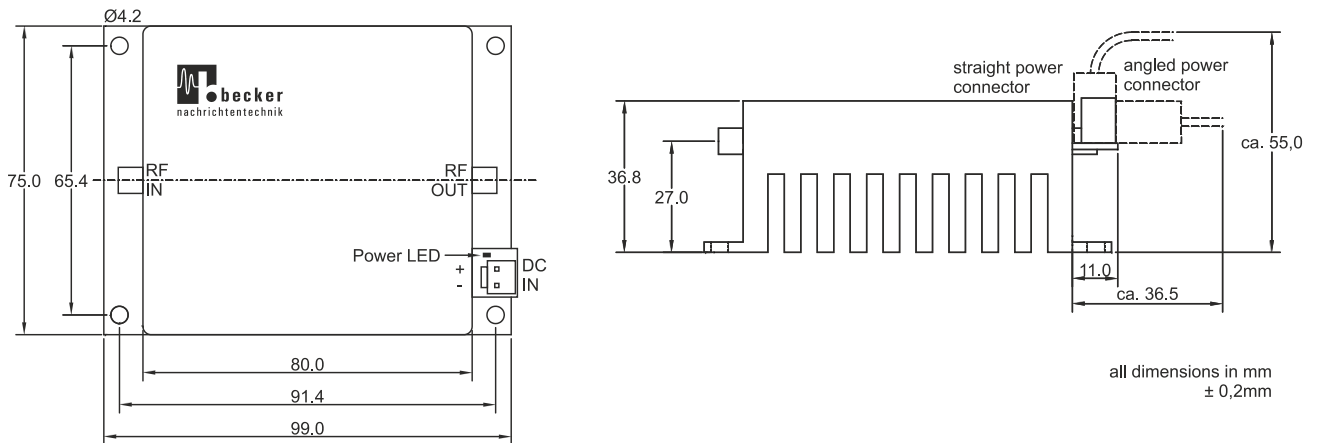
### Dynamic Range (typical responses)



Linearity (typical responses)



Dimensions



## Related Products

Product	Description	P/N
AMP018032	1 W Medium Power Amplifier Module 100 kHz ... 80 MHz, 50 $\Omega$	1002.5701.1
AMP590033	2 W Booster Amplifier Module 5 ... 900 MHz, 50 $\Omega$	0901.5011.1
AMP590033H	2 W Power Amplifier Module 5 ... 900 MHz, 50 $\Omega$	0901.5001.1
AMP5270026	High Dynamic Amplifier Module 5 ... 2700 MHz, 50 $\Omega$	1005.5201.1
AMP5220031	High Dynamic Amplifier Module 5 ... 2200 MHz, 50 $\Omega$	1005.5101.1
AMP20280035	4.5 W Wideband Amplifier Module 20 ... 2800 MHz, 50 $\Omega$	1209.5001.1
AMP10850026	500 mW Wideband Amplifier Module 10 ... 8500 MHz, 50 $\Omega$	1305.5001.1
AMP5170033	Extremely High Linearity Amplifier Module 5 ... 1700 MHz, 50 $\Omega$	1401.5011.1
AMP1053043H	20 W Power Amplifier Module 10 ... 530 MHz, 50 $\Omega$	1001.5001.1

