AMP20280035B

4.5 W Wideband Amplifier Module 20 … 2800 MHz

Features

- output power +35.5 dBm typ.
- high efficiency
- VLF suppression
- optical supply indication
- reverse polarity protected
- replacement for AMP20280035

Applications

- power amplifier for cellular
- GSM, UMTS, LTE
- WiFi
- laboratory
- test equipment

At a Glance

AMP20280035B from Becker Nachrichtentechnik is a compact amplifier module in 50 ohms technology designed for the use in professional applications. The robust electric and mechanic design gives solid operations over a long time. The amplifier works stable over a wide frequency range with many octaves. Internal filters and low noise voltage supplies guarantee high suppression of spurious. To avoid damages during installation the supply is protected against reverse polarity. For versatile use the amplifier works over a wide DC supply voltage range. The presence of DC power is indicated by a LED at the module.
The amplifier module has an integrated heat sink.

Special Features

The AMP20280035B offers 4.5 watts RF output power with a good efficiency. An integrated high pass filter in the input supress unwanted signals in the VLF and HF range.

Rugged Design

The amplifier is housed is a milled aluminum case. This saves the circuits against mechanical damage and gives best shielding for avoiding EMI influences caused by radio signals coming from the environment.

DC Connector Variants

For mechanical integration into customer specific setups the amplifier module is available in variants with horizontal or vertical orientation of DC plug. This enables optimized DC cable routing to the amplifier module.

RF Specification

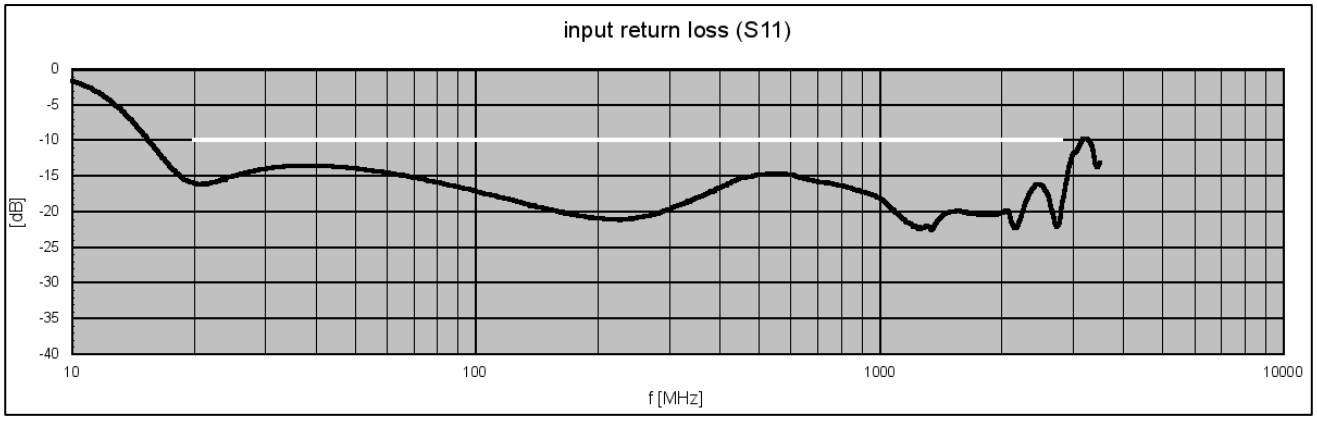
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z_{out}		50		Ω	
low frequency	f_{min}			20	MHz	
high frequency	f_{max}	2800			MHz	
gain	S_{21}	35	39	41	dB	f < 100 MHz
	S_{21}	32	36	41	dB	100 MHz ≤ f ≤ 2500 MHz
	S_{21}	28	34	41	dB	f > 2500 MHz
	S_{21}			-23	dB	f < 4 MHz, rel. S_{21} @ 100 MHz
input return loss	S_{11}		-16	-10	dB	
reverse isolation	S_{12}		-70	-40	dB	
3rd order intercept	OPIP3[1]		+43		dBm	
1 dB compression	P_{1dB}	+33	+35		dBm	f ≤ 2000 MHz
3 dB compression	P_{3dB}	+34	+36		dBm	f ≤ 2500 MHz
	P_{3dB}	+32	+34		dBm	f > 2500 MHz
noise figure	NF		4	7	dB	f > 50 MHz
input power				+20	dBm	
maximum DC Voltage	U_{DC}			20	V	RF ports
ESD discharge resistor	R_{ESD}		4.7		kΩ	RF input
RF connectors	X_{RF}	SMA female				

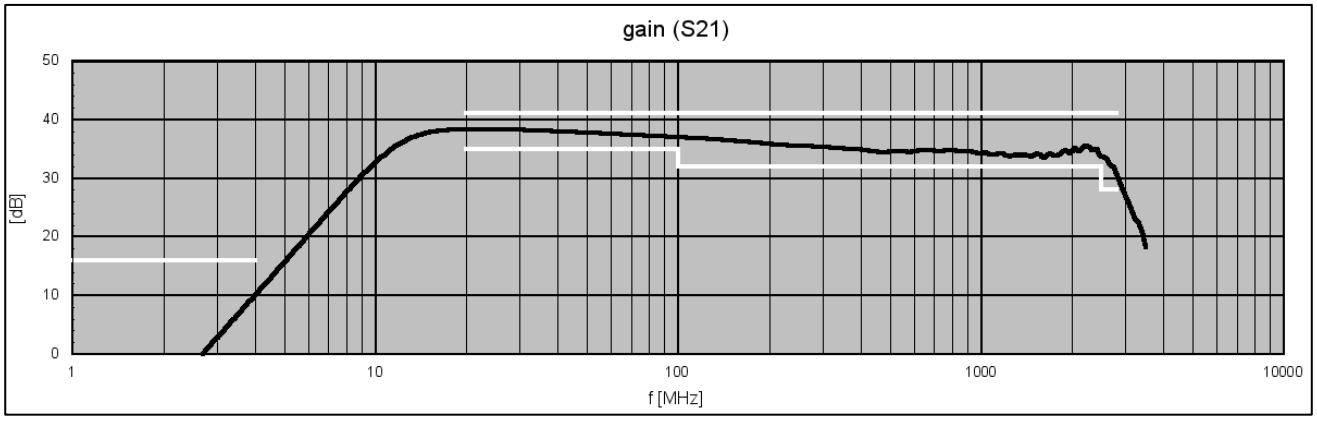
Note 1: Tested at P_{out} 2 x +25 dBm; Δf = 2 MHz

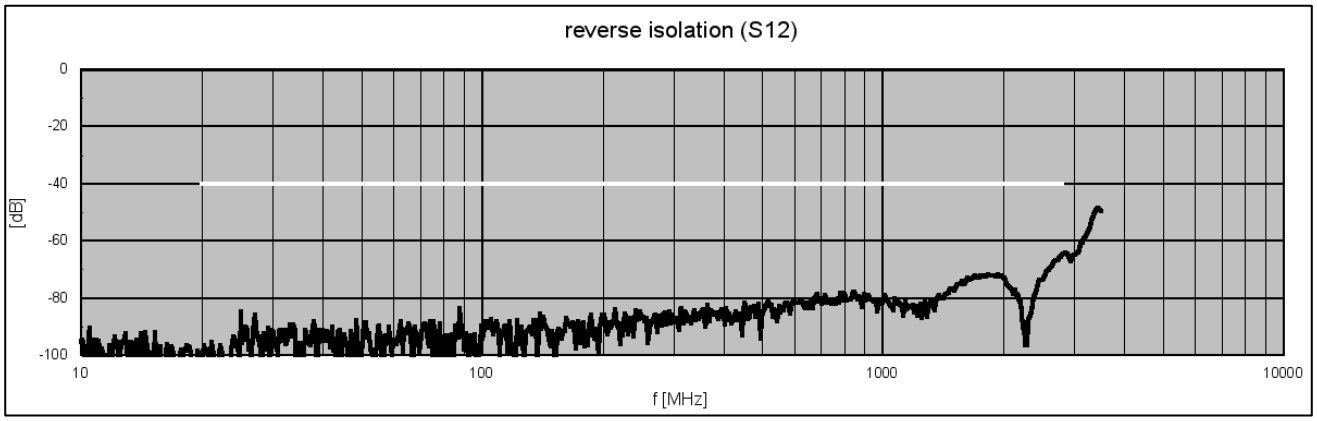
Common Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	U_{DC}	23.5	24.0	24.5	V	DC
Quiescent current	I_Q		170		mA	no input signal
current consumption	I_{DC}		500		mA	maximum output power
dimensions	W x H x D	approx. 99 x 36 x 75			mm	
weight	m		350		g	
power socket	X_{DC}	NSL-396M-2W/NSL-396M-2G				grid 3.96 mm, Var. 1/Var. 2
power plug	X_{DCP}	NSG396M-2				housing with 3 contacts are part of delivery
operating temp. range	T_o	0		+70	°C	module surface
storage temp. range	T_s	-40		+70	°C	
ordering information	AMP20280035B			1209.5201.1		vertical orientated power connector
	AMP20280035B			1209.5201.2		horizontal orientated power connector

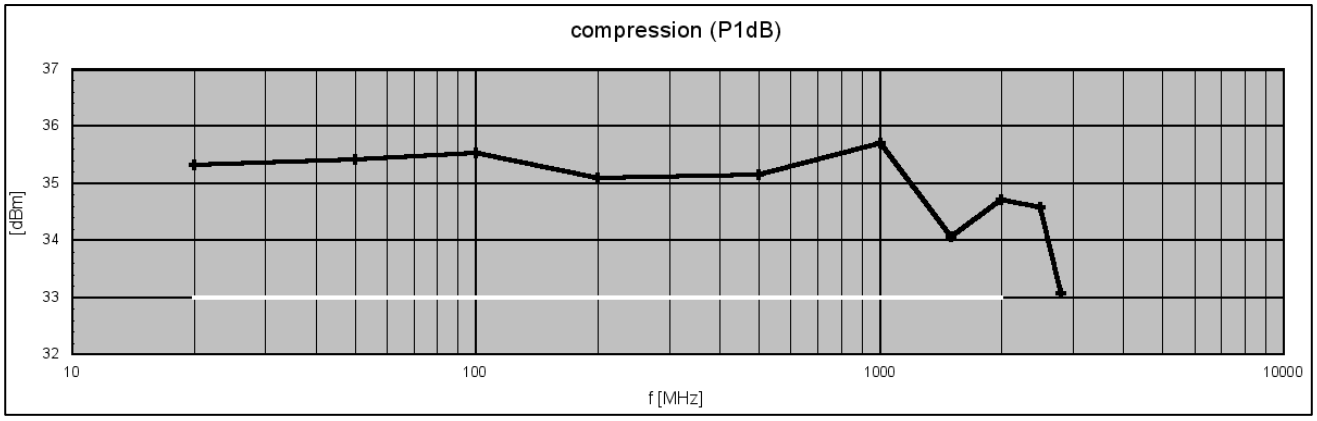
S-Parameters (typical responses)

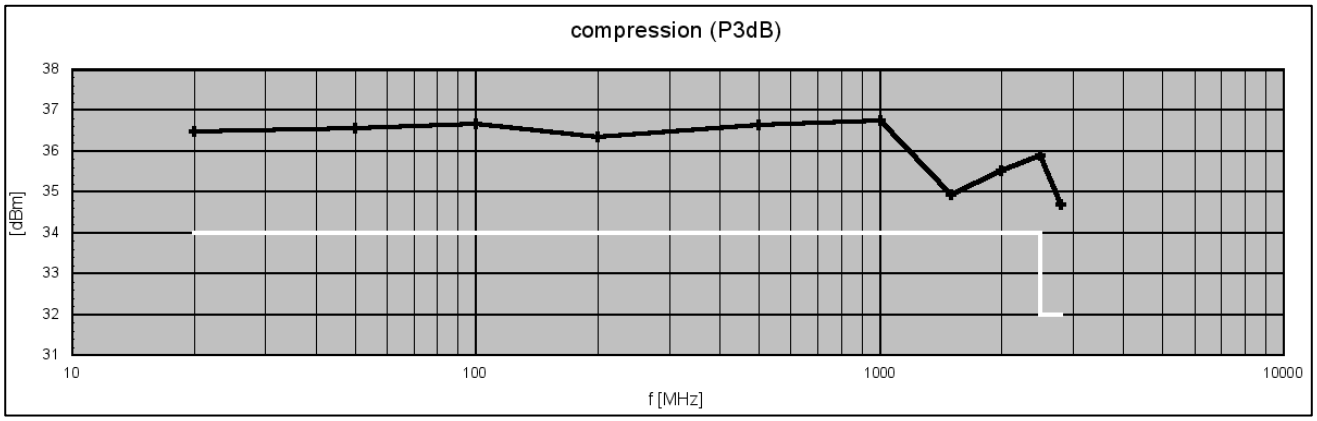


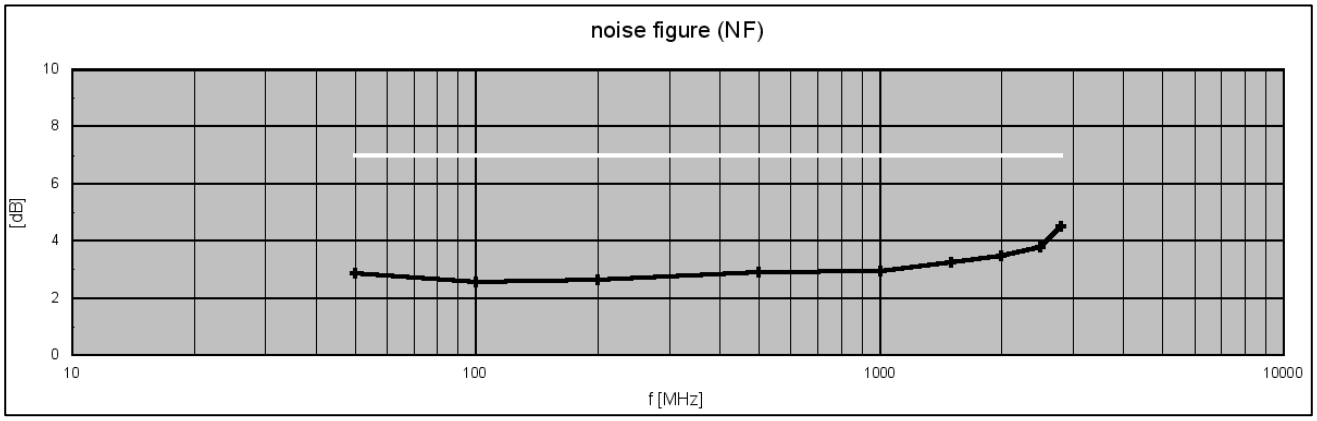




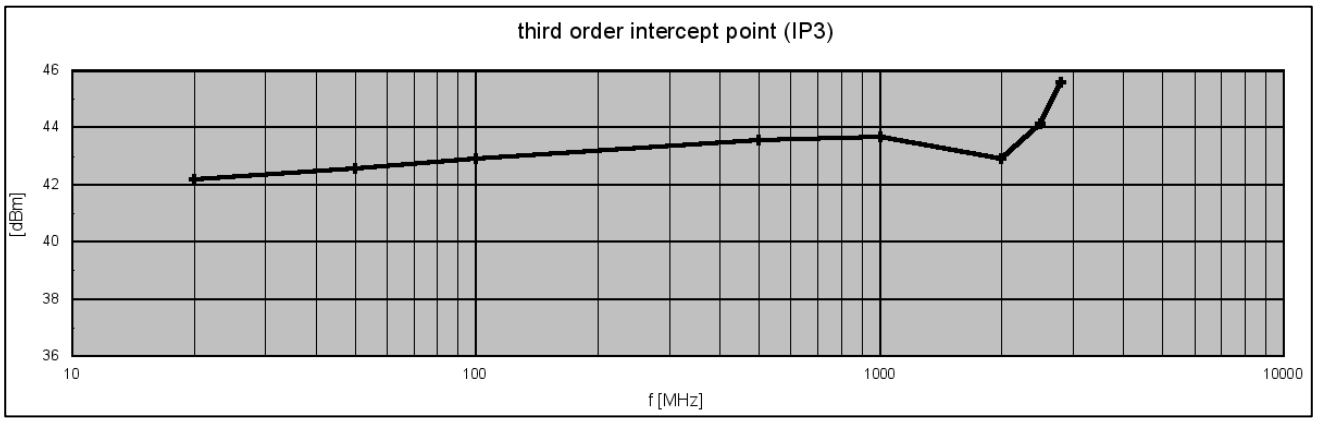
Dynamic Range (typical responses)



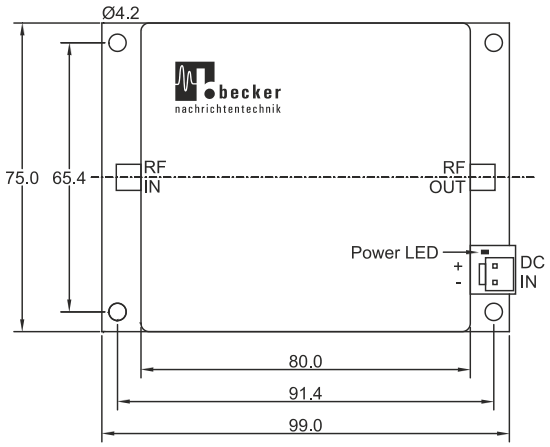


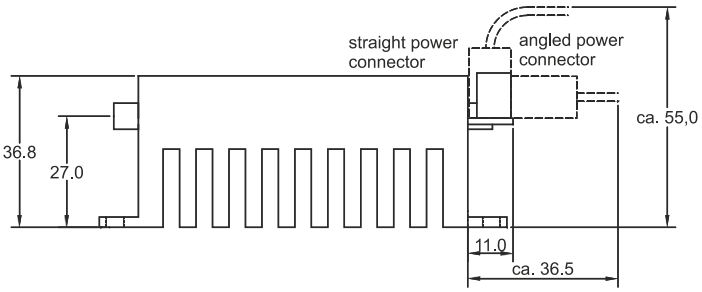


Linearity (typical responses)



Dimensions





all dimensions in mm
± 0,2mm

Related Products

Product	Description	P/N
AMP1053045	30 W Linear Power Amplifier Module 10 … 530 MHz	1908.5001.1
AMP1053043H	20 W Power Amplifier Module 10 ... 530 MHz	1001.5001.x
AMP2000600040L	13 W Power Amplifier Module 2000 … 6000 MHz	1711.5001.1
AMP300600040L	10 W Power Amplifier Module 300 … 6000 MHz	1801.5001.1
AMP20280035	4.5 W Wideband Amplifier Module 20 … 2800 MHz	1209.5001.x
AMP3060036	4 W Ultra High Linearity, Full Redundant, Wideband Amplifier Module 30 ... 600 MHz with heat sink	1602.5001.1
AMP3060036L	4 W Ultra High Linearity, Full Redundant, Wideband Amplifier Module 30 ... 600 MHz for mounting on heat sink	1602.5001.2
AMP590033	2 W Booster Amplifier Module 5 … 900 MHz	0901.5011.x
AMP590033H	2 W Amplifier Module 5 … 900 MHz	0901.5001.x
AMP5170033	2 W Amplifier Module 5 … 1700 MHz	1401.5011.1
AMP5220031	1 W High Dynamic Amplifier Module 5 … 2200 MHz	1005.5101.x
AMP018032	1.3 W High Linearity Amplifier Module 100 kHz…80 MHz	1002.5701.x
AMP5270026	400 mW High Dynamic Amplifier Module 5 … 2700 MHz	1005.5201.x
AMP10850026	400 mW Ultra Wideband Amplifier Module 10 ... 8500 MHz	1305.5001.x
LNA1080014	400 mW Low Noise Amplifier Module 10 … 800 MHz	0901.5501.x

Remark: All modules with P/N extension with ".x" are available with horizontal or vertical orientated DC power connector.