AMP1053043H

20 W Power Amplifier Module 10 ... 530 MHz, 50 Ω

Features

- output power +45 dBm typ.
- high IP3
- high gain
- input transient protected
- L/HF suppression
- reverse polarity protected

Applications

- VHF/ UHF transmitters
- PA driver amplifier
- air traffic control
- defense
- laboratory
- test equipment
- instrumentation

At a Glance

AMP1053043H is a power amplifier module suitable for the frequency range from 10 MHz to 530 MHz. It is designed in 50 Ohm technology.

Excellent Dynamic

The high 3rd order intercept point in combination with a low noise figure makes this amplifier suitable for demanding applications.

Versatile Use

Due to its high bandwidth, AMP1053043H can be used in several fields of application. It is suitable for aircraft radio in the VHF and UHF range. The amplifier is also often used in research and development applications.

Robust Design

AMP1053043H features a robust module design with integrated passive cooling.
The DC supply input is reverse polarity protected, thereby inadvertently damage of the module is prevented.

RF Specifications

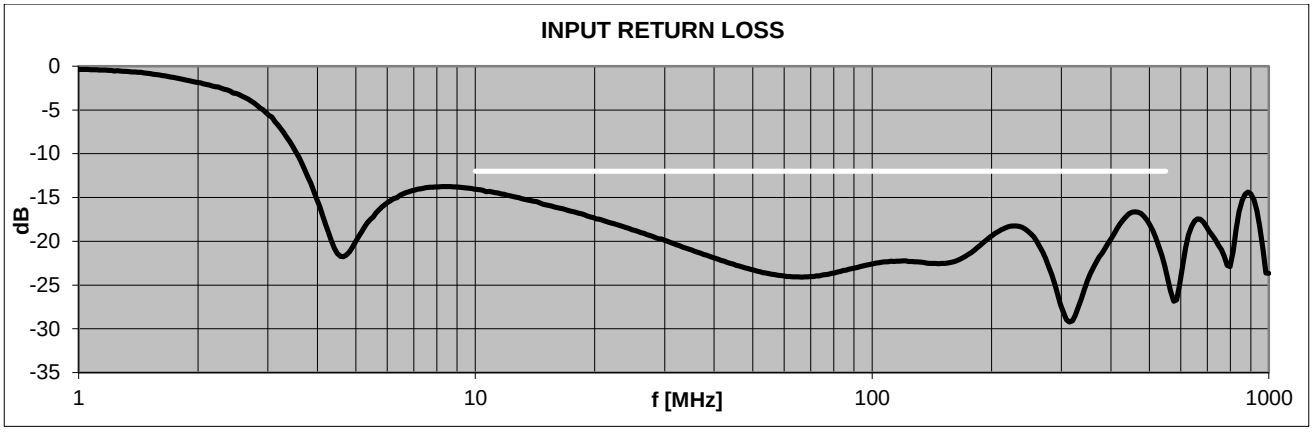
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{in} / Z_{out}		50		Ohm	
low frequency	f_{min}		5	10	MHz	
high frequency	f_{max}	530	550		MHz	
gain	S_{21}	40	44	47	dB	
gain ripple	ΔS_{21}		±1.5	±2.0	dB	
low frequency response	S_{21}		-85	-70	dB	100 kHz, rel. 100 MHz
	S_{21}		-50	-25	dB	1 MHz, rel. 100 MHz
input return loss	S_{11}		-18	-12	dB	
output return loss	S_{22}		-8	-4	dB	small signal
load Mismatch	VSWR		1:6.0	1:3.0		P_{out} > 10W
reverse isolation	S_{12}	50	70		dB	
1 dB compression	P_{1dB}[1]	43	45		dBm	Note 1
3rd order intercept	OPIP3[2]	45	49		dBm	Note 2
2nd order intercept	OPIP2[2]	50	70		dBm	Note 2
noise figure	NF		3	5	dB	
maximum input power	$P_{in\ max}$			+20	dBm	output terminated with 50 Ohm
RF connectors						SMA female

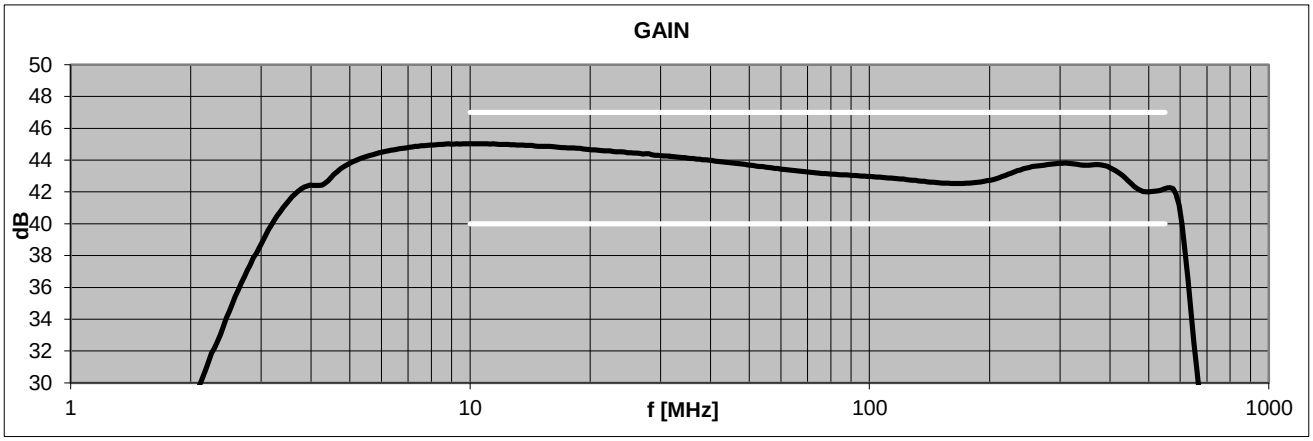
Specifications are valid for CW signals
Note 1: Referred to gain at +37 dBm output level
Note 2: Tested at P_{OUT} 2 x +38 dBm; Δf = 1 MHz

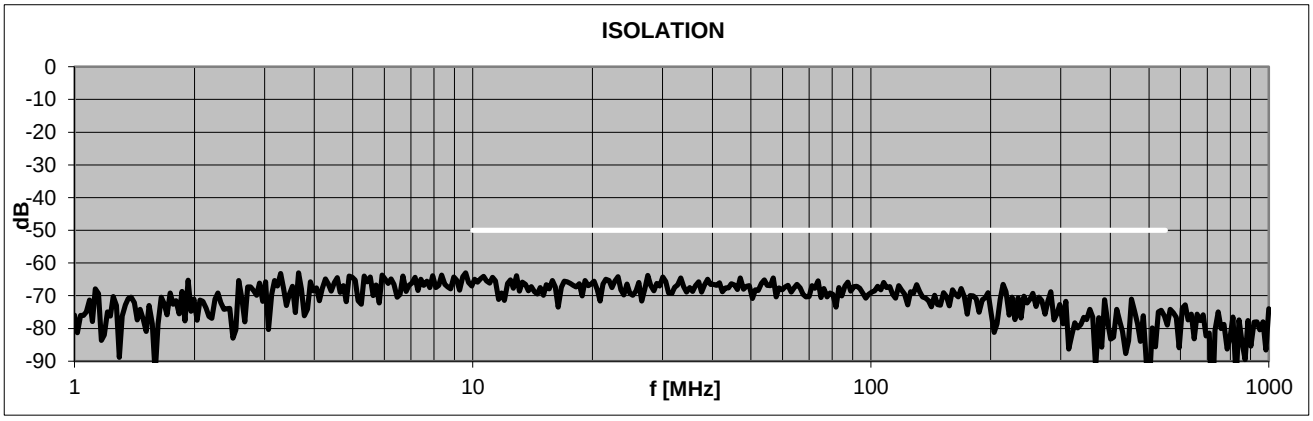
Common Specifications

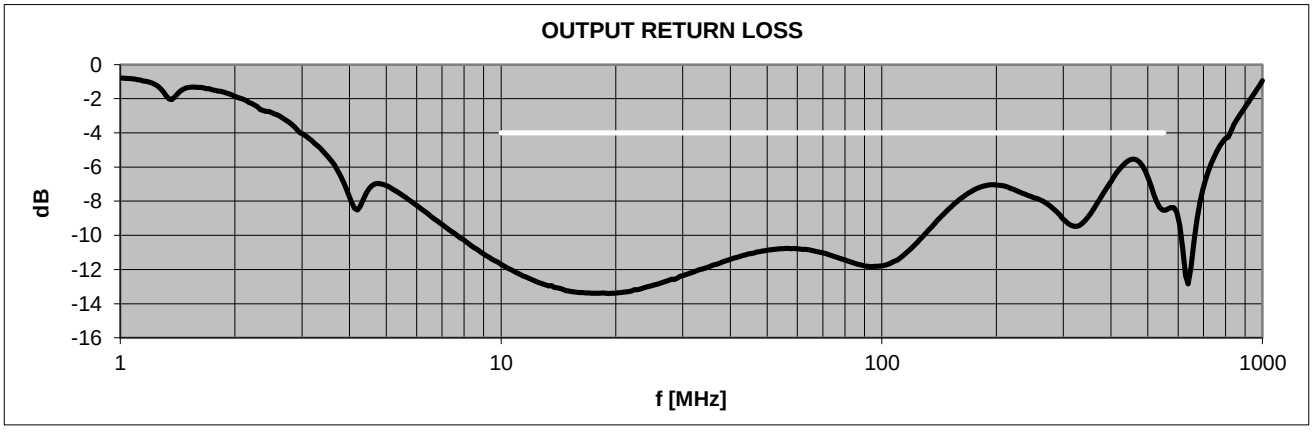
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	U	27.5	28.0	28.5	V	DC
current consumption	I		1240*	6000	mA	*quiescence current
	I	3000	3800	4800	mA	at +43 dBm output level
dimensions	L x W x H	approx. 232 x 119 x 96			mm	
weight	m		2900		g	
recommend power plug	GSN 87H391X1F-03 + 87C39FL-R50					included accessories
operating temp. range	T_o	-20		+65	°C	ambiance
storage temp. range	T_s	-40		+70	°C	
ordering information	AMP1053043H			1001.5001.1		

S-Parameters (typical responses)

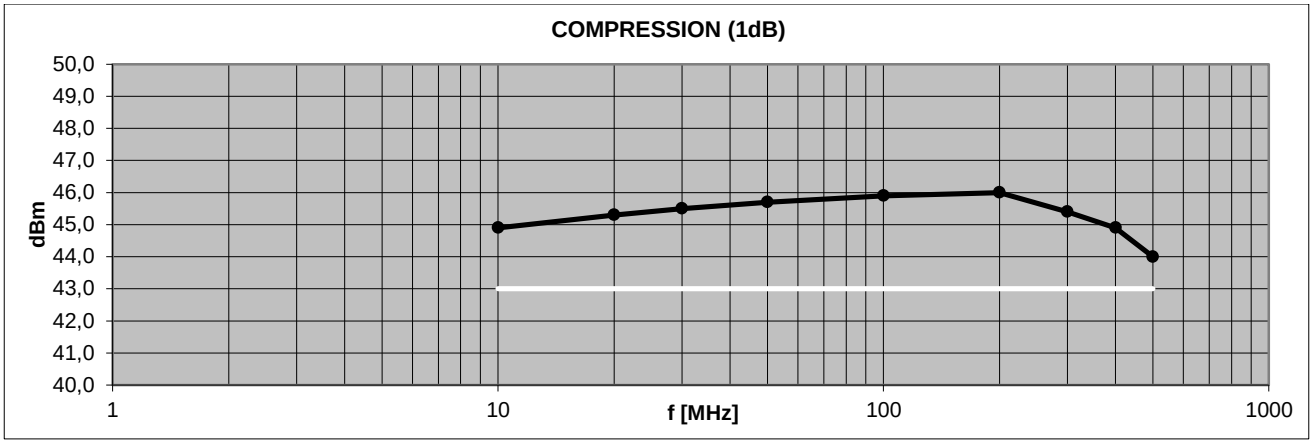


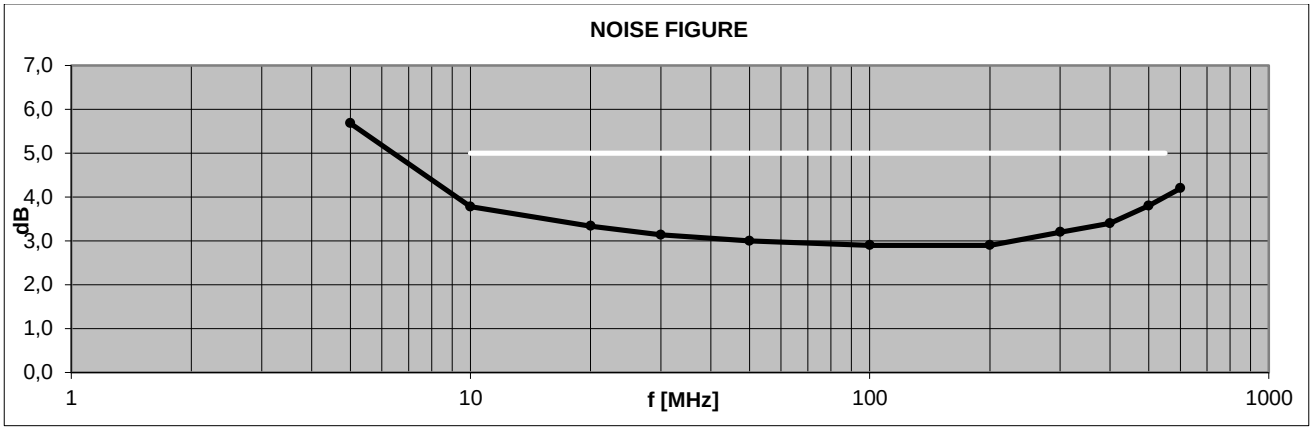




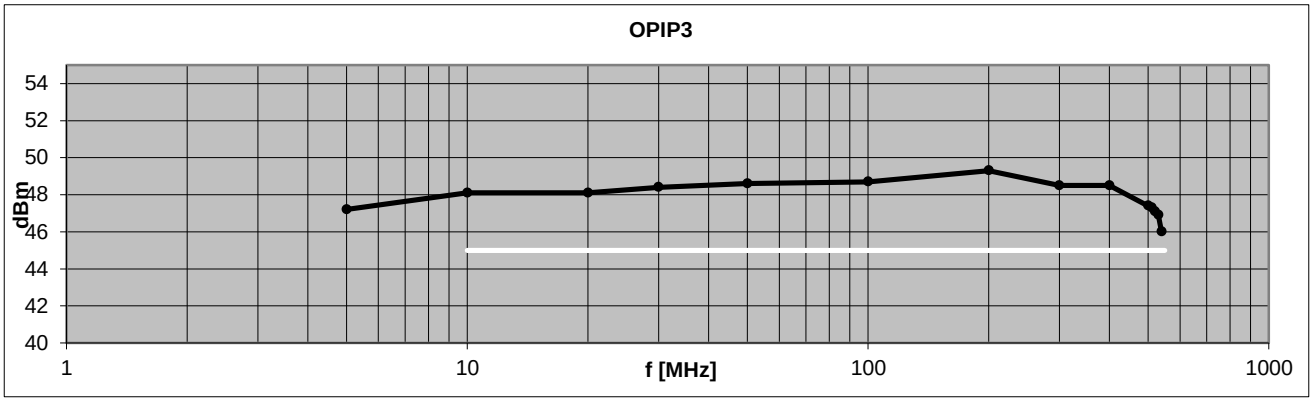


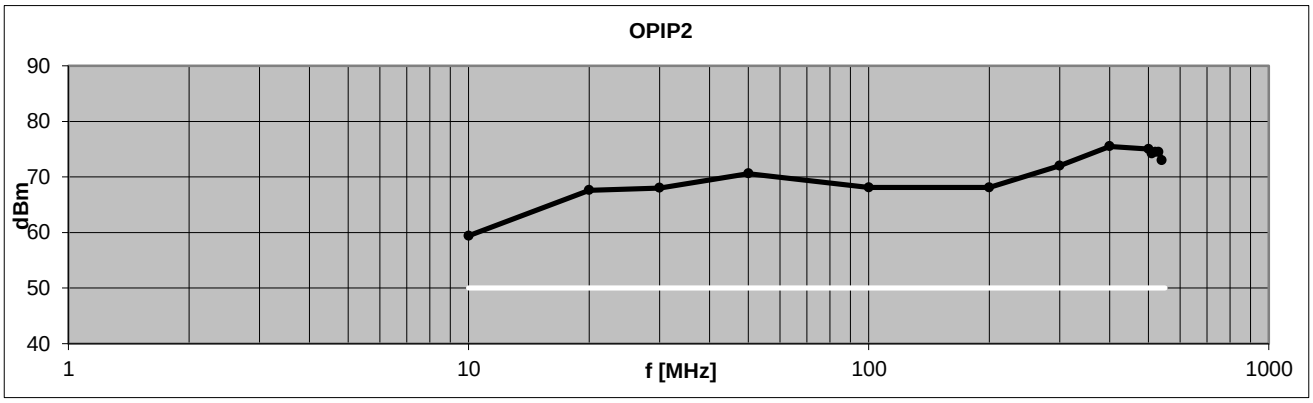
Dynamic Range (typical responses)



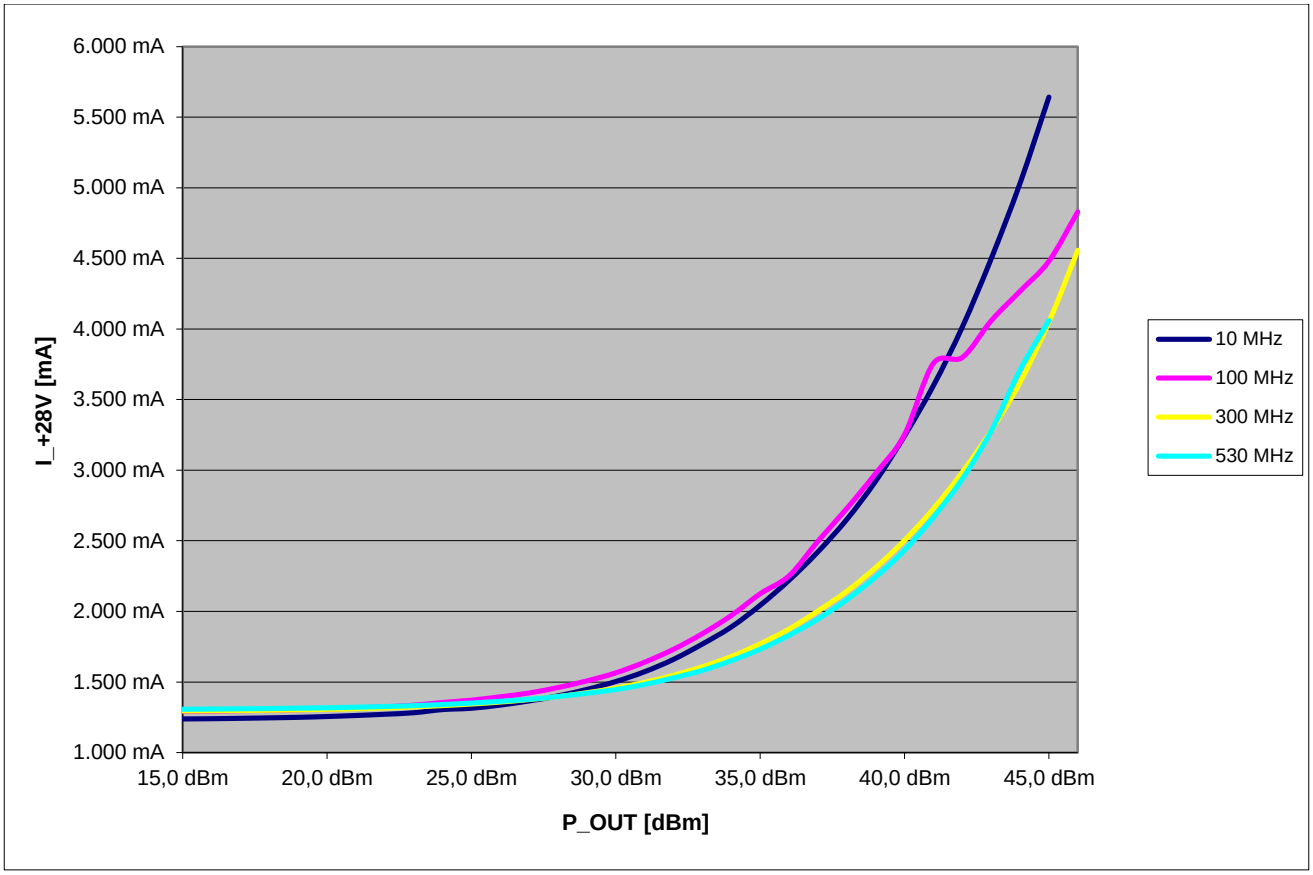


Linearity (typical responses)

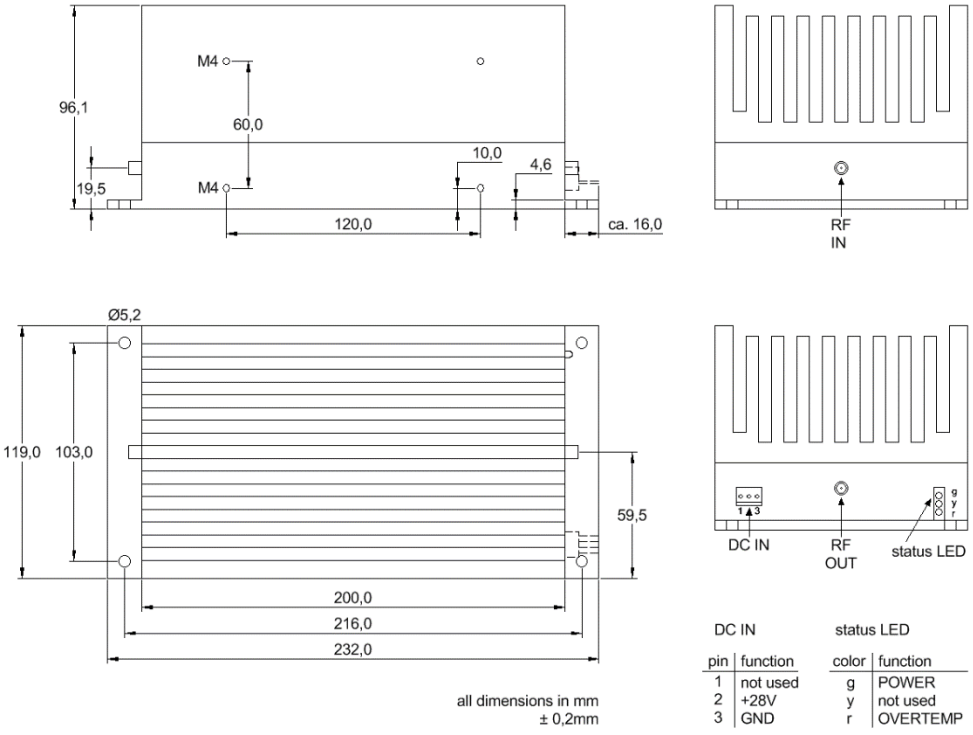




Efficiency



Dimensions



DC IN

pin	function
1	not used
2	+28V
3	GND

status LED

color	function
g	POWER
y	not used
r	OVERTEMP

Related Products

Product	Description	P/N
AMP018032	1 W Medium Power Amplifier Module 100 kHz ... 80 MHz, 50 Ω	1002.5701.1
LNA1080014	High Dynamic Range Amplifier Module 10 … 800 MHz, 50 Ω	0901.5501.1
AMP590033	2 W Booster Amplifier Module 5 … 900 MHz, 50 Ω	0901.5011.1
AMP590033H	2 W Power Amplifier Module 5 … 900 MHz, 50 Ω	0901.5001.1
AMP5270026	High Dynamic Amplifier Module 5 … 2700 MHz, 50 Ω	1005.5201.1
AMP5220031	High Dynamic Amplifier Module 5 … 2200 MHz, 50 Ω	1005.5101.1
AMP20280035	4.5 W Wideband Amplifier Module 20 … 2800 MHz, 50 Ω	1209.5001.1
AMP10850026	500 mW Wideband Amplifier Module 10 ... 8500 MHz, 50 Ω	1305.5001.1
AMP5170033	Extremely High Linearity Amplifier Module 5 … 1700 MHz, 50 Ω	1401.5011.1