

AMP01600017B

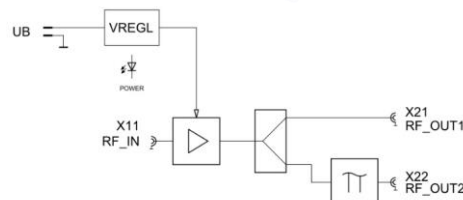
50 mW High Dynamic Wideband Amplifier Module with Monitoring Port
 100 kHz ... 6500 MHz

Features

- multi octave operating bandwidth
- output power +17 dBm typ.
- monitoring output
- OIP3 +31 dBm typ. @ 1 GHz
- internal voltage stabilisation
- optical supply indication

Applications

- SDR Frontends
- RX amplifier
- PA driver amplifier
- R&D



At a Glance

AMP01600017B from Becker Nachrichtentechnik is a compact wideband 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 covering many octaves. Internal filters and low noise voltage supplies guarantee high suppression of spurious. The presence of DC power is indicated by a LED at the module. The amplifier module has an integrated heat sink for passive cooling.

Special Features

The high dynamic range and the multi octave bandwidth makes the amplifier module suitable in professional wideband receiving systems applications where weak RF signals in combination with very strong signals must be amplified with a minimum of distortion effects. The module has a coupled output "RF_OUT2" for monitoring purpose. With help of this output checks of signals can be done without interruption in operation.

Rugged Design

The amplifier is housed in 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.

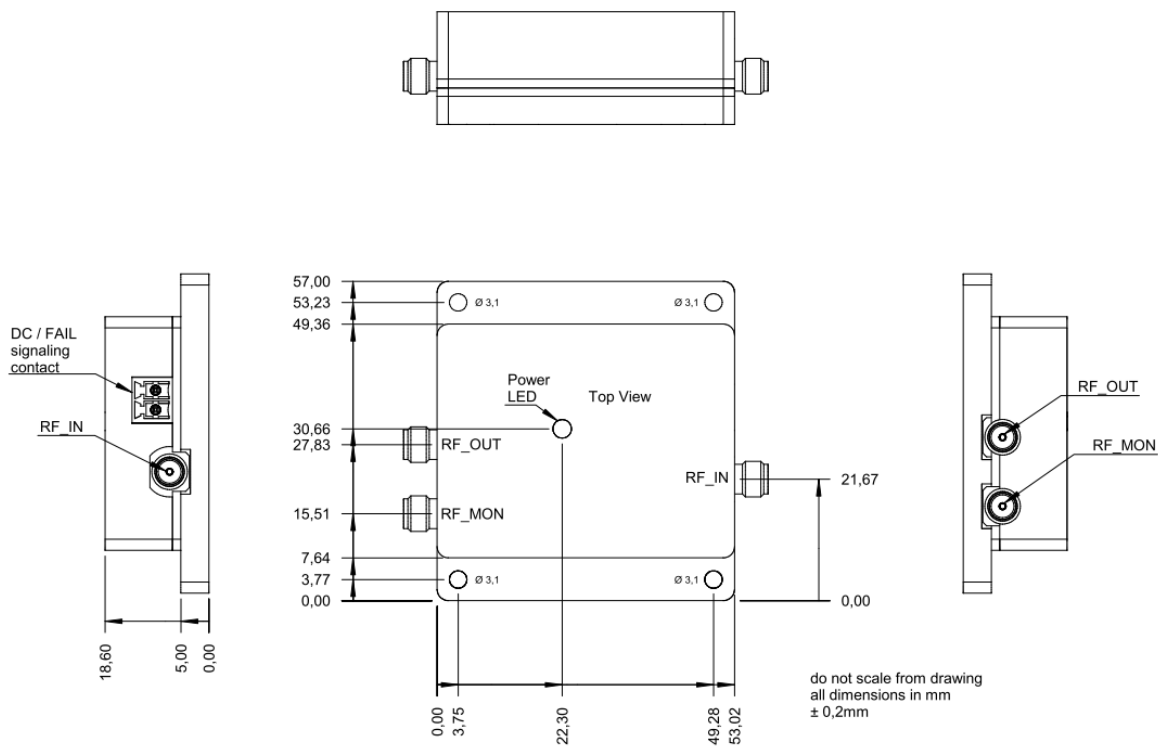
RF Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
impedance	Z_{IN}/Z_{OUT}		50		Ω	
low frequency	f_{MIN}			100	kHz	
high frequency	f_{MAX}	6000	6500		MHz	
gain	S_{21}		20		dB	$100 \text{ kHz} \leq f \leq 1000 \text{ MHz}$
	S_{21}		17		dB	$1000 \text{ MHz} < f \leq 4000 \text{ MHz}$
			12		dB	$4000 \text{ MHz} < f < 6000 \text{ MHz}$
return loss	S_{11}, S_{22}		-10		dB	$100 \text{ kHz} \leq f \leq 3000 \text{ MHz}$
output return loss	S_{33}		-12		dB	RF_OUT2
reverse isolation	S_{12}		-22		dB	
3 rd order intercept	$OIP3^1$		+31		dBm	$100 \text{ kHz} \leq f \leq 1000 \text{ MHz}$
	$OIP3^1$		+28		dBm	$1000 \text{ MHz} < f \leq 3000 \text{ MHz}$
	$OIP3^1$		+23		dBm	$3000 \text{ MHz} < f \leq 5000 \text{ MHz}$
	$OIP3^1$		+20		dBm	$5000 \text{ MHz} < f \leq 6000 \text{ MHz}$
1 dB compression	P_{1dB}		+17		dBm	$100 \text{ kHz} \leq f \leq 3000 \text{ MHz}$
	P_{1dB}		+14		dBm	$3000 \text{ MHz} < f \leq 5000 \text{ MHz}$
	P_{1dB}		+10		dBm	$5000 \text{ MHz} < f \leq 6000 \text{ MHz}$
noise figure	NF		4		dB	$100 \text{ kHz} \leq f \leq 3000 \text{ MHz}$
			5		dB	$3000 \text{ MHz} < f \leq 6000 \text{ MHz}$
monitoring coupling	S_{31}		-30	-25	dB	$f \leq 4500 \text{ MHz}$
	S_{31}		-22	-18	dB	$f > 4500 \text{ MHz}$
maximum DC Voltage	U_{DC}			20	V	RF ports
ESD discharge resistors	R_{ESD}		4.7		k Ω	RF input / output
ESD discharge resistors	R_{ESD}		1		k Ω	RF monitoring port
input power	P_{in}			+12	dBm	no damage
RF connectors		SMA female				

Note 1: tested at $P_{OUT} 2 \times +4 \text{ dBm}$ **Common Specification**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
supply voltage	U_{DC}	9	12	14	V	DC
current consumption	I_{12V}		70		mA	@ 12V DC
dimensions	W x H x D	approx. 53 x 19 x 57			mm	
weight	m		50		g	
power socket	X_{DC}	Würth WR-TBL3251-2-3.5-W				
power plug	X_{DCP}	Würth WR-TBL3641-2-3.5				part of delivery
operating temp. range	T_{AMB}	5		+70	°C	module surface
storage temp. range	T_s	-40		+70	°C	
ordering information	AMP01600017B			1604.5001.2		

Dimensions



Related Products

Product	Description	P/N
AMP20002000042	10 W Power Amplifier Module, 2000 MHz ... 20 GHz Module with external heat sink	2301.5111.1
AMP20002000042L	10 W Power Amplifier Module, 2000 MHz ... 20 GHz Module for mounting on external heat sink	2301.5101.1
AMP101800030	1 W Ultra-Wideband Linear Amplifier Module, 10 ... 18000 MHz	2106.5001.x
AMP17001300038	6 W Power Amplifier Module, 1700 ... 13000 MHz Module with external heat sink	2004.5111.1
AMP17001300038L	6 W Power Amplifier Module, 1700 ... 13000 MHz Module for mounting on external heat sink	2004.5011.1
AMP300600040	10 W Power Amplifier Module, 300 ... 6000 MHz Module with external heat sink	1801.5101.1
AMP300600040L	10 W Power Amplifier Module, 300 ... 6000 MHz Module for mounting on external heat sink	1801.5001.1
AMP01600017B	50 mW Wideband Amplifier, 100 kHz ... 6000 MHz	1604.5001.2
AMP51505925-TRX	Wi-Fi TX/RX Booster Amplifier for Radiating Cables	1802.5001.1
AMP51505925-TRX-K	Kit for 5 GHz Wi-Fi Coverage Extension using Radiating Cables	1802.5011.1
AMP20280035B	4.5 W Wideband Amplifier Module, 20 ... 2800 MHz	1209.5201.x
AMP5270026	400 mW High Dynamic Amplifier Module, 5 ... 2700 MHz	1005.5201.x
AMP5220031	1 W High Dynamic Amplifier Module, 5 ... 2200 MHz	1005.5101.x
AMP5170033	2 W Amplifier Module 5 ... 1700 MHz	1401.5011.1
AMP50130036	4 W High Linearity, Full Redundant, UHF Wideband Amplifier, 50...1300 MHz Module with heat sink	1602.5001.4
AMP50130036L	4 W High Linearity, Full Redundant, UHF Wideband Amplifier, 50...1300 MHz Module for mounting in external heat sink	1602.5001.5
AMP590033	2 W Booster Amplifier Module 5 ... 900 MHz Module with heat sink	0901.5011.x
AMP590033L	2 W Booster Amplifier Module 5 ... 900 MHz Module for mounting in external heat sink	0901.5011.x
AMP590033H	2 W Amplifier Module 5 ... 900 MHz Module with heat sink	0901.5001.x
AMP590033HL	2 W Amplifier Module 5 ... 900 MHz Module for mounting in external heat sink	0901.5001.x
LNA1080014	400 mW Low Noise Amplifier Module 10 ... 800 MHz	0901.5501.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
AMP1053045	30 W Linear Power Amplifier Module 10 ... 530 MHz	1908.5001.1
AMP17024048L	60 W DAB Linear Power Amplifier Module 170 ... 240 MHz Module for mounting on external heat sink	2104.5001.4
AMP17024048	60 W DAB Linear Power Amplifier Module 170 ... 240 MHz Module with external heat sink	2104.5101.4
AMP7610849L	80 W FM Linear Power Amplifier Module 76 ... 108 MHz Module for mounting on external heat sink	2104.5001.3
AMP7610849	80 W FM Linear Power Amplifier Module 76 ... 108 MHz Module with external heat sink	2104.5101.3
AMP018032	1.3 W High Linearity Amplifier Module 100 kHz...80 MHz	1002.5701.x

Note: Sorted descending by upper limit frequency.

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