



WBA0003B

1 kHz – 300 MHz LOW NOISE WIDE BAND AMPLIFIER

REV A
July 2012

Key Features



- 50-Ohm Impedance
- 1 kHz ~ 300 MHz
- 1.25 dB noise figure
- 15.0 dB Gain
- +/-0.25 dB Gain Flatness
- 12.0 dBm P_{1dB}
- 20 dB Return Loss
- Single Power Supply
- >68 years MTBF
- Unconditional stable
- RoHS Compliant

Product Description

WBA0003B integrates WanTcom proprietary low noise amplifier technology, high frequency micro electronic assembly techniques, and high reliability design to realize optimum low noise figure, wideband, high linearity, and unconditional stable performances together. With single +5.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard SMA connectorized WP-5 gold plated housing.

The amplifier is designed to meet the rugged standard of MIL-STD-202.

Applications

- Mobile Infrastructures
- Broadcast
- CATV/DBS
- Defense
- Security System
- Measurement
- Fixed Wireless



Specifications

Summary of the electrical specifications WBA0003B at room temperature

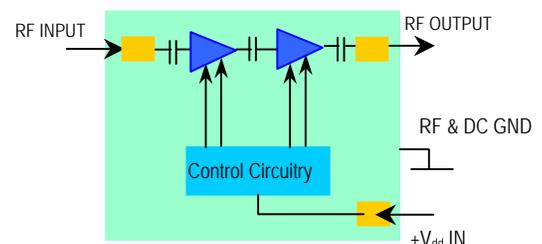
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	1 kHz – 300 MHz		15		dB
2	Gain Variation	ΔG	1 kHz – 300 MHz		+/- 0.25	+/-0.5	dB
3	Input Return Loss	S ₁₁	1 kHz – 300 MHz	14	20		dB
4	Output Return Loss	S ₂₂	1 kHz – 300 MHz	14	22		dB
5	Reverse Isolation	S ₁₂	1 kHz – 300 MHz		20		dB
6	Noise figure	NF	50 MHz – 300 MHz		1.25	1.50	dB
			10 MHz – 50 MHz			2.6	dB
7	Output Power 1dB compression Point	P _{1dB}	1 kHz – 300 MHz		12		dBm
9	Current Consumption	I _{dd}	V _{dd} = +5 V		45		mA
10	Power Supply Voltage	V _{dd}		+4.7	+5	+5.2	V
11	Thermal Resistance	R _{th,c}	Junction to case, 2 nd stage, 30 mA@3.0V			220	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	1 kHz – 300 MHz			10	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	7.0
Drain Current	mA	70
Input and Output DC Voltage	V	10
RF Input Power	dBm	0
Channel Temperature	°C	150
Storage Temperature	°C	-65 ~ 150
Operating Temperature	°C	-55 ~ 100
Thermal Resistance	°C/W	220

Operation of this device above any one of these parameters may cause permanent damage.

Functional Block Diagram



Ordering Information

Model Number	WBA0003B
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Specifications and information are subject to change without notice.

