



# WBA0110B

## 0.10 – 1.0 LOW NOISE WIDE BAND AMPLIFIER

REV C  
June 2016

### Key Features



- 50 Ohm Impedance
- 0.10 – 1.0 GHz
- 0.60 dB Noise Figure
- 32.0 dBm Output IP<sub>3</sub>
- 23.0 dB Gain
- 19.0 dBm P<sub>1dB</sub>
- 1.35:1 VSWR
- Single Power Supply
- >64 years MTBF
- Unconditional Stable
- RoHS compliant

### Product Description

WBA0110B is integrated with 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 +12.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard N Female connectorized WP-15 RoHS compliance clear plated housing.

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

CAUTION:



ELECTROSTATIC DISCHARGE SENSITIVE

### Applications

- Mobile Infrastructures
- VHF & UHF
- CATV/DBS
- Defense
- Security System
- Measurement
- Fixed Wireless



### Specifications

Summary of the electrical specifications at room temperature, 21 °C

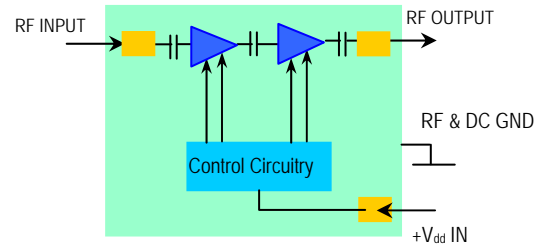
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S <sub>21</sub>	0.1 – 1.0 GHz		23		dB
2	Gain Variation	ΔG	0.1 – 1.0 GHz		+/- 0.5	+/-1.0	dB
3	Input VSWR	SWR <sub>1</sub>	0.1 – 1.0 GHz		1.35:1	1.5:1	Ratio
4	Output VSWR	SWR <sub>2</sub>	0.1 – 1.0 GHz		1.35:1	1.5:1	Ratio
5	Reverse Isolation	S <sub>12</sub>	0.1 – 1.0 GHz	25	28		dB
6	Noise Figure	NF	0.1 – 1.0 GHz		0.60	0.80	dB
7	Output Power 1dB Compression Point	P <sub>1dB</sub>	0.1 – 1.0 GHz	17	19		dBm
8	Output-Third-Order Interception Point	IP <sub>3</sub>	Two-Tone, P <sub>out</sub> +0 dBm each, 1 MHz separation	30	32		dBm
9	DC Current Consumption	I <sub>dd</sub>	V <sub>dd</sub> = +12 V		65		mA
10	Power Supply Voltage	V <sub>dd</sub>		+11		+16	V
11	Thermal Resistance	R <sub>th,c</sub>	Junction to case, transistor DC, 65 mA @ 3.0V			200	°C/W
12	Operating Temperature	T <sub>o</sub>		-40		+85	°C
13	Maximum CW RF Input Power	P <sub>IN, MAX</sub>	0 – 6 GHz			13	dBm

### Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	16V
Drain Current	mA	75
Total Power Dissipation	W	1.0
CW RF Input Power	dBm	13
Channel Temperature	°C	150
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance	°C/W	200

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

### Functional Block Diagram



### Ordering Information

Model Number	WBA0110B
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Specifications and information are subject to change without notice.

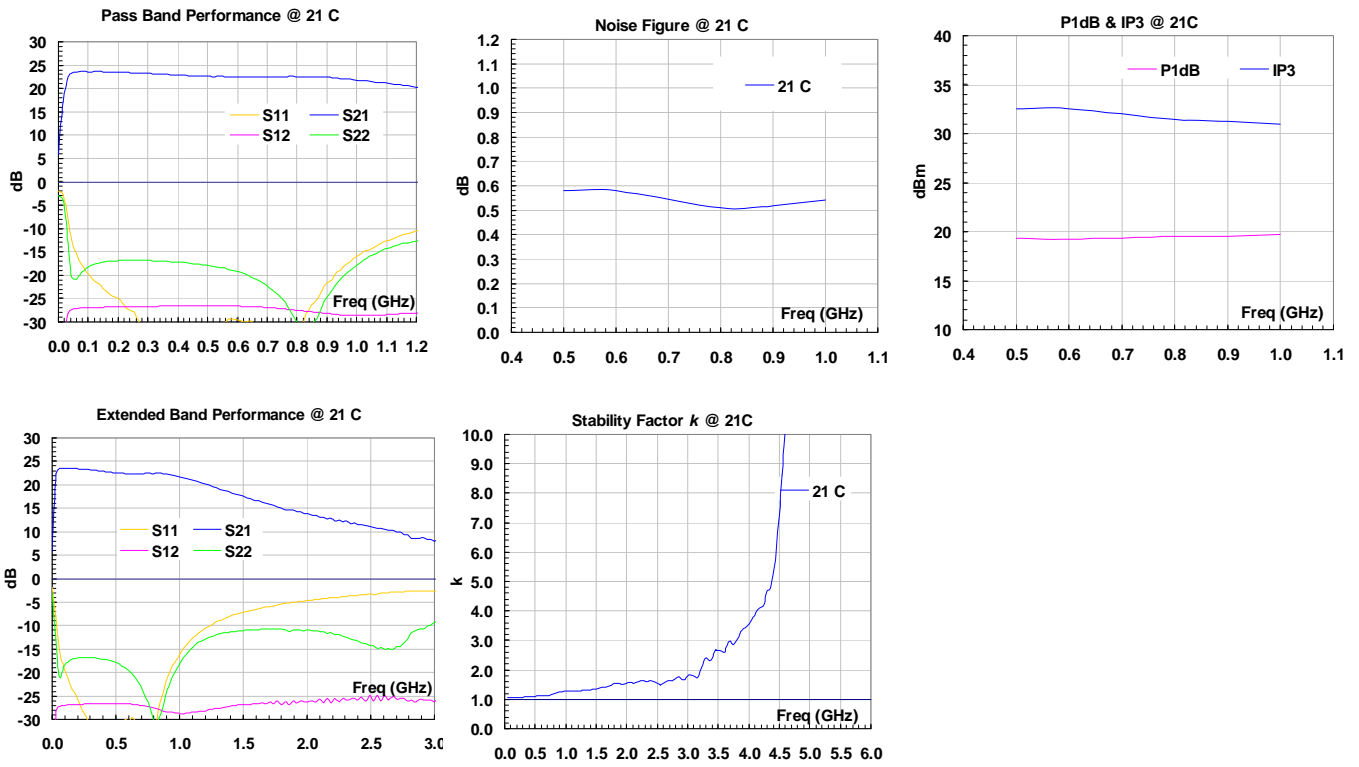


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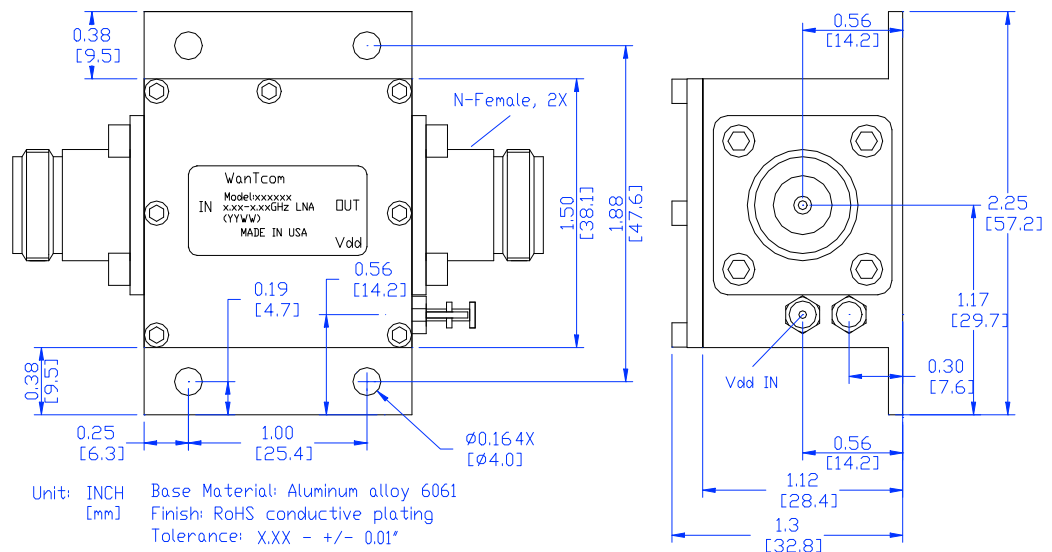
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### Typical Data



### Outline, WP-15 Housing



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