



WBA0110B

0.10 – 1.0 LOW NOISE WIDE BAND AMPLIFIER

REV B
October 2013

Key Features



- 50 Ohm Impedance
- 0.10 – 1.0 GHz
- 0.60 dB Noise Figure
- 32.0 dBm Output IP_3
- 23.0 dB Gain
- 19.0 dBm P_{1dB}
- 1.35:1 VSWR
- Single Power Supply
- >64 years MTBF
- Unconditional Stable
- RoHS compliant

Product Description

WBA0110B 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 +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-202.

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

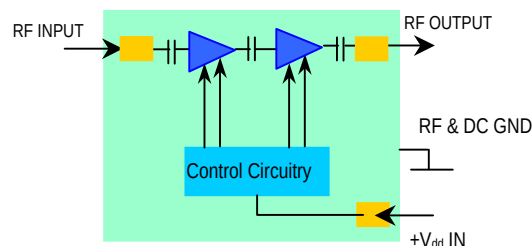
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S_{21}	0.1 – 1.0 GHz		23		dB
2	Gain Variation	ΔG	0.1 – 1.0 GHz		+/- 0.5	+/-1.0	dB
3	Input VSWR	SWR_1	0.1 – 1.0 GHz		1.35:1	1.5:1	Ratio
4	Output VSWR	SWR_2	0.1 – 1.0 GHz		1.35:1	1.5:1	Ratio
5	Reverse Isolation	S_{12}	0.1 – 1.0 GHz	25	28		dB
6	Noise Figure	NF	0.1 – 1.0 GHz		0.60	0.80	dB
7	Output Power 1dB Compression Point	P_{1dB}	0.1 – 1.0 GHz	17	19		dBm
8	Output-Third-Order Interception Point	IP_3	Two-Tone, P_{out} +0 dBm each, 1 MHz separation	30	32		dBm
9	Current Consumption	I_{dd}	V_{dd} = +12 V		65		mA
10	Power Supply Voltage	V_{dd}		+11		+16	V
11	Thermal Resistance	$R_{th,c}$	Junction to case, transistor DC, 65 mA @ 3.0V			200	°C/W
12	Operating Temperature	T_o		-40		+85	°C
13	Maximum Average RF Input Power	$P_{IN, MAX}$	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
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.

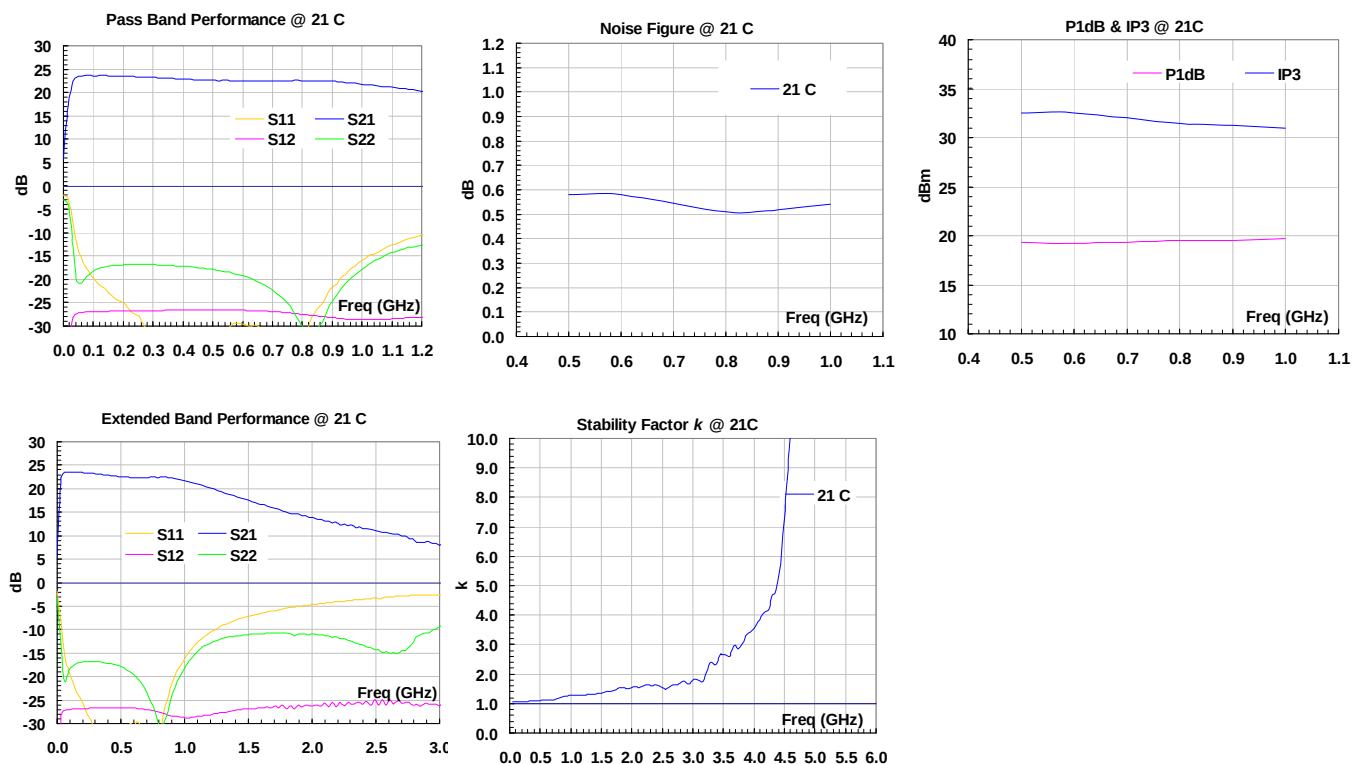


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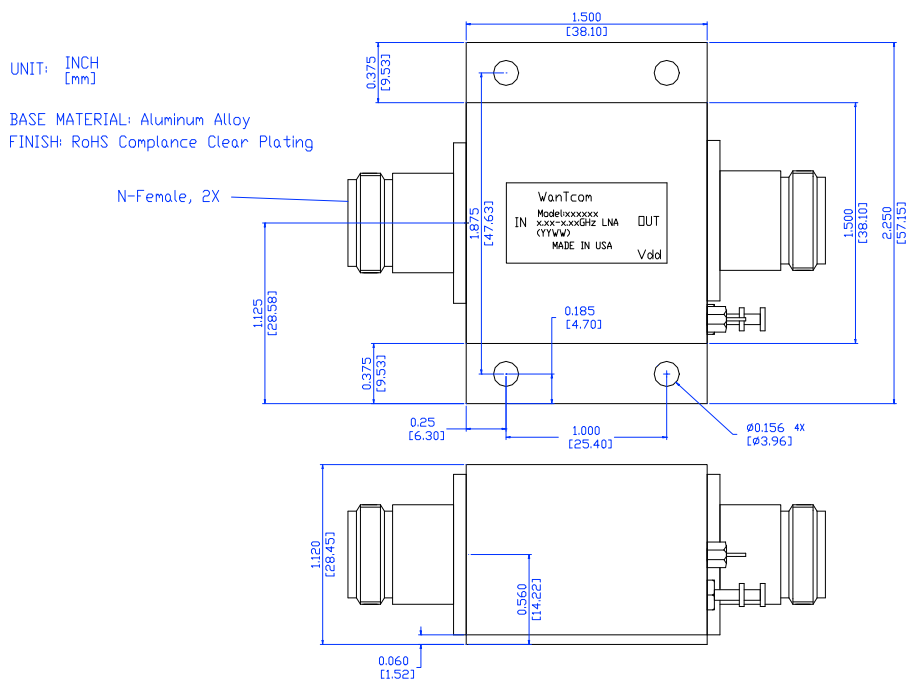
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Typical Data



Outline, WP-15 Housing



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