

**WBA0102A****130 – 180 MHz LOW NOISE WIDE BAND AMPLIFIER****REV B****September 2013**

Key Features



- 50 Ohm Impedance
- 130 ~ 180 MHz
- 1.6 dB Noise Figure
- 44.0 dBm Output IP_3
- 22.0 dB Gain
- 27.0 dBm P_{1dB}
- 1.35:1 VSWR
- Single DC Power Supply
- >64 Years MTBF
- Unconditional Stable
- RoHS Compliant

Product Description

WBA0102A 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
- CATV/DBS
- Defense
- Security System
- Measurement
- Fixed Wireless



Specifications

Summary of the electrical specifications WBA0102A at room temperature, $V_{dd} = +12$ V

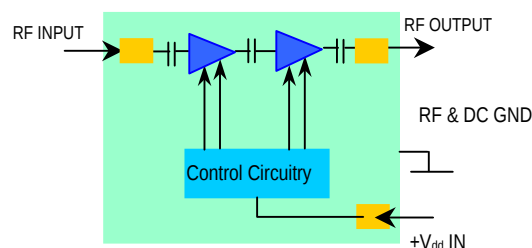
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S_{21}	130 – 180 MHz	20	22	24	dB
2	Gain Variation	ΔG	130 – 180 MHz		+/- 0.2	+/-0.5	dB
3	Input VSWR	SWR_1	130 – 180 MHz		1.35:1	1.5:1	Ratio
4	Output VSWR	SWR_2	130 – 180 MHz		1.35:1	1.5:1	Ratio
5	Reverse Isolation	S_{12}	130 – 180 MHz	25	28		dB
6	Noise Figure	NF	130 – 180 MHz		1.6	1.8	dB
7	Output 1dB Gain Compression Point	P_{1dB}	130 – 180 MHz	26	27		dBm
8	Output-Third-Order Interception Point	IP_3	Two-Tone, P_{out} +10 dBm each, 1 MHz separation	42	44		dBm
9	DC Current Consumption	I_{dd}	$V_{dd} = +12$ V		210		mA
10	Power Supply Voltage	V_{dd}		+11	+12	+16	V
11	Thermal Resistance	$R_{th,c}$	Junction to case			25	°C/W
12	Operating Temperature	T_o	Case temperature	-40		+85	°C
13	Maximum CW RF Input Power	$P_{IN, MAX}$	0 – 6 GHz			24	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	16V
Drain Current	mA	250
Total Power Dissipation	W	2.6
RF CW Input Power	dBm	24
Channel Temperature	°C	150
Storage Temperature	°C	-55 ~ +125
Operating Temperature	°C	-40 ~ +85
Thermal Resistance	°C/W	25

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

Functional Block Diagram



Ordering Information

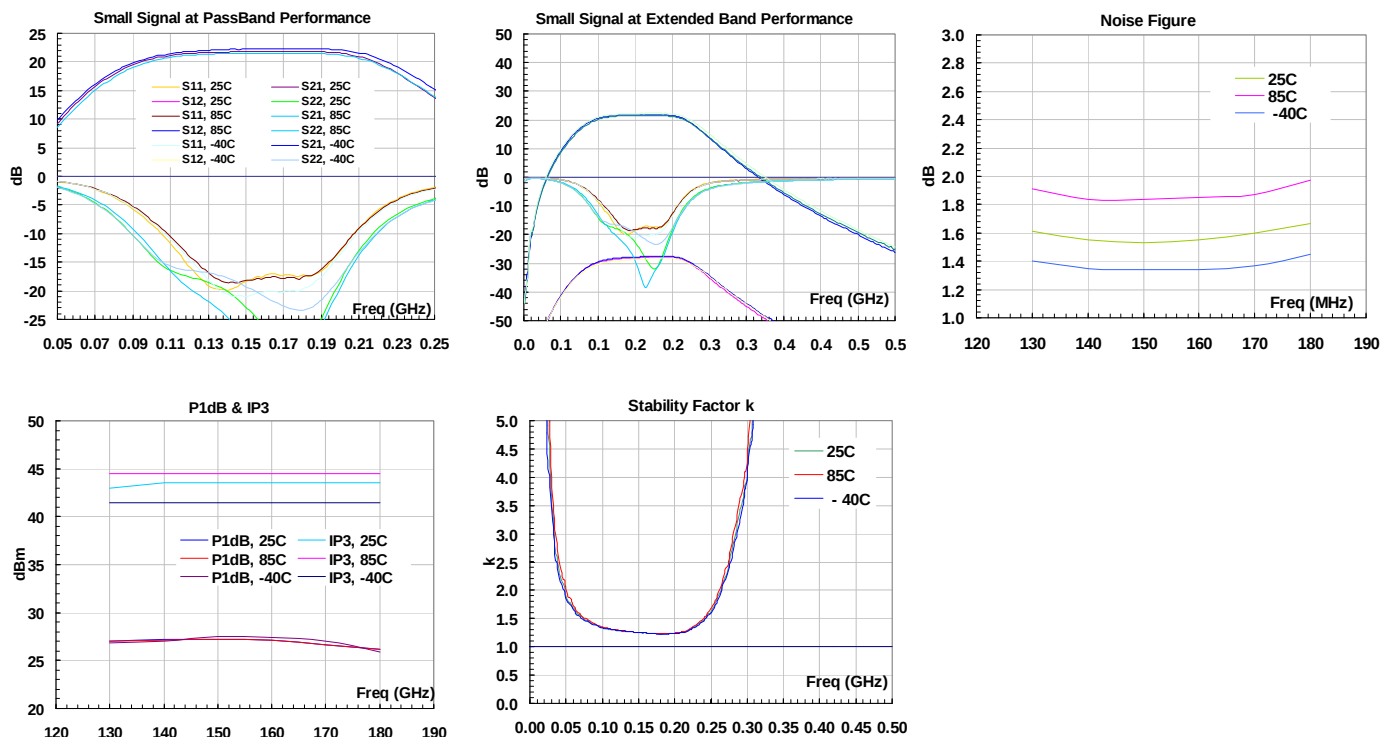
Model Number	WBA0102A
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Specifications and information are subject to change without notice.

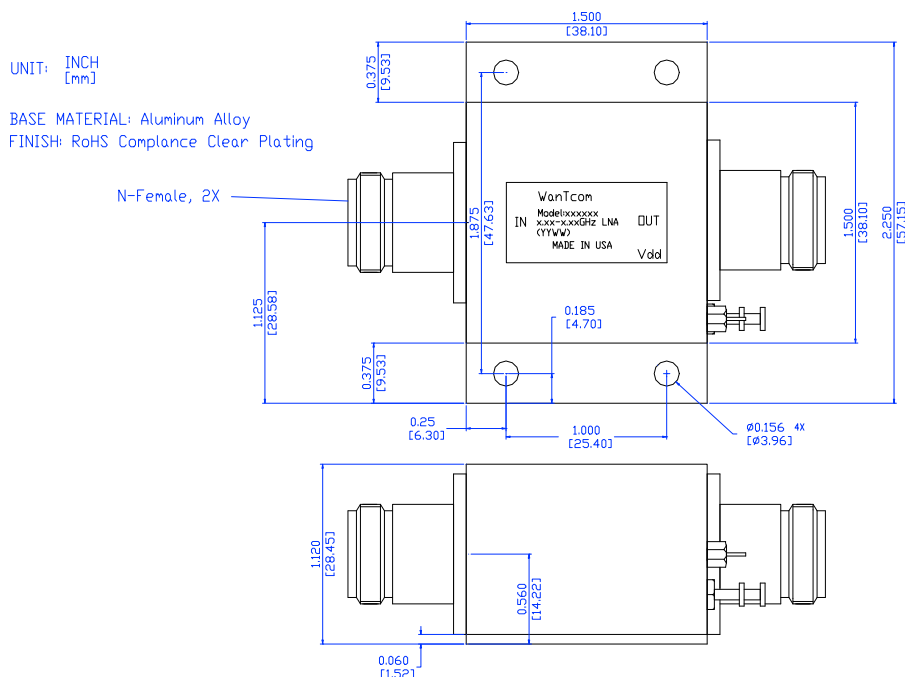
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Typical Data



Outline, WP-15 Housing

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