



# WA0510A

## 470 – 960 MHz LOW NOISE WIDE BAND POWER AMPLIFIER

REV A  
January 2017

### Key Features



- 50 Ohm Impedance
- 470 ~ 960 MHz
- 0.80 dB Noise Figure
- 38.0 dBm Output IP<sub>3</sub>
- 20.0 dB Gain
- 25.0 dBm P<sub>1dB</sub>
- 1.15:1 VSWR
- Single Power Supply
- >64 years MTBF
- Unconditional Stable
- RoHS Compliant

### Product Description



WA0510A 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.

### Applications

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



### Specifications

Summary of the electrical specifications WA0510A at room temperature

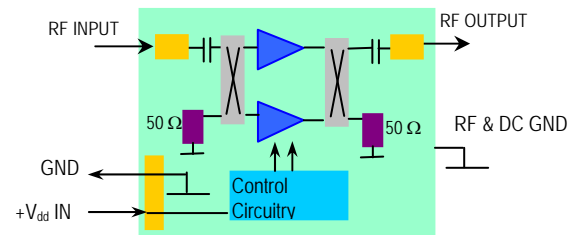
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S <sub>21</sub>	470 – 960 MHz	18	20	22	dB
2	Gain Variation	ΔG	470 – 960 MHz		+/- 1.5		dB
3	Input VSWR	SWR <sub>1</sub>	470 – 960 MHz		1.22:1	1.35:1	Ratio
4	Output VSWR	SWR <sub>2</sub>	470 – 960 MHz		1.22:1	1.35:1	Ratio
5	Reverse Isolation	S <sub>12</sub>	470 – 960 MHz	25	30		dB
6	Noise Figure	NF	470 – 960 MHz		0.80	1.1	dB
7	Output Power 1dB Compression Point	P <sub>1dB</sub>	470 – 960 MHz	23	25		dBm
8	Output-Third-Order Interception Point	IP <sub>3</sub>	Two-Tone, P <sub>out</sub> +0 dBm each, 1 MHz separation	35	38		dBm
9	Current Consumption	I <sub>dd</sub>	V <sub>dd</sub> = +9 V ~ +16V		240		mA
10	Power Supply Voltage	V <sub>dd</sub>		+9		+16	V
11	Thermal Resistance	R <sub>th,c</sub>	Junction to case			25	°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			15	dBm

### Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	16V
Drain Current	mA	300
Total Power Dissipation	W	3.6
CW RF Input Power	dBm	15
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



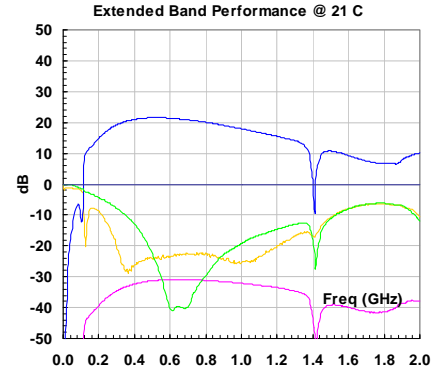
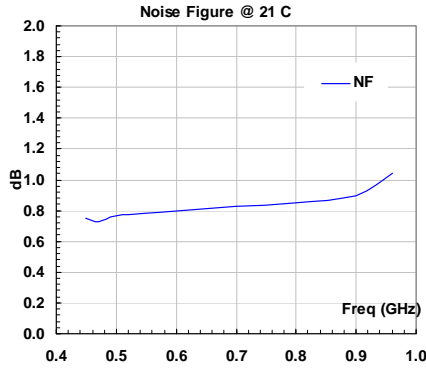
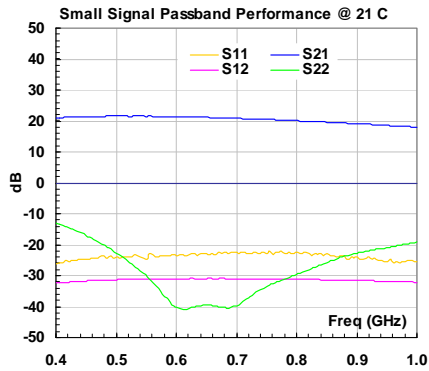
### Ordering Information

Model Number	WA0510A
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Specifications and information are subject to change without notice.

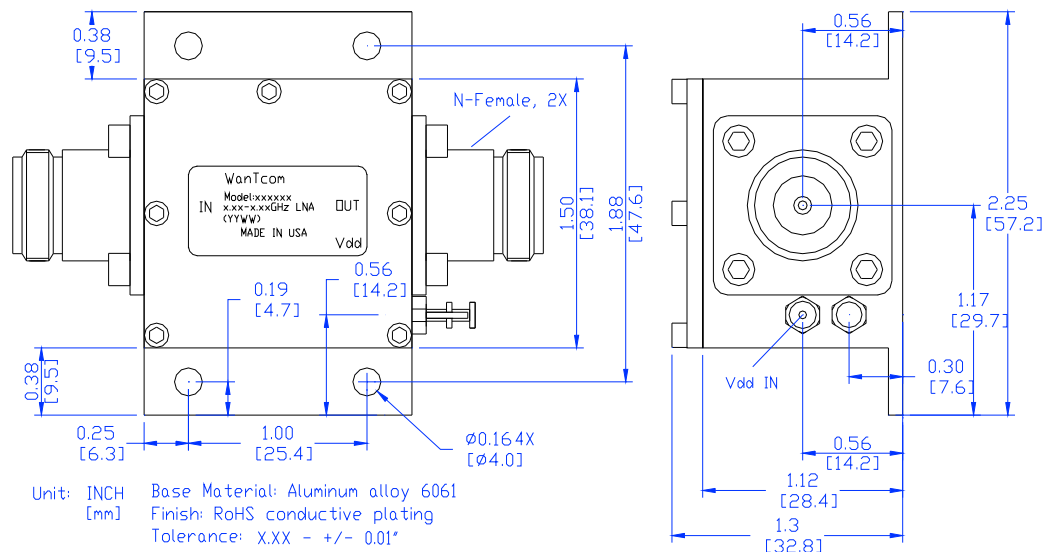


### Typical Data



# Preliminary

### Outline, WP-15 Housing



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