



# WLPA80-4540A

## 7.7 – 8.5 GHz GHz LOW NOISE POWER AMPLIFIER

REV A

September, 2008

### Key Features



- 7.7 ~ 8.5 GHz
- 2.5 dB noise figure
- 40.0 dBm output IP<sub>3</sub>
- 48.0 dB Gain
- +/-1.0 dB Gain Flatness
- 31 dBm P<sub>1dB</sub>
- 1.5:1 VSWR
- Single power supply
- >34 years MTBF
- Unconditional stable
- RoHS compliant

### Product Description

WLPA80-4540A 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 +10.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard I/O pins and gold plated housing.

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

### Applications

- Mobile Satellite
- Fixed Satellite
- Weather Radar
- Measurement
- Fixed Wireless

# Preliminary

### Specifications

Summary of the electrical specifications WLPA80-4540A at room temperature

Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S <sub>21</sub>	7.7 – 8.5 GHz	46	48		dB
2	Gain Variation	ΔG	7.7 – 8.5 GHz		+/- 1.0		dB
3	Input VSWR	SWR <sub>1</sub>	7.7 – 8.5 GHz		1.5:1	1.6:1	Ratio
4	Output VSWR	SWR <sub>2</sub>	7.7 – 8.5 GHz		1.5:1	1.6:1	Ratio
5	Reverse Isolation	S <sub>12</sub>	7.7 – 8.5 GHz		50		dB
6	Noise figure	NF	7.7 – 8.5 GHz		2.5	3.0	dB
7	Output Power 1dB compression Point	P <sub>1dB</sub>	7.7 – 8.5 GHz	30	31		dBm
8	Output-Third-Order Interception point	IP <sub>3</sub>	Two-Tone, P <sub>out</sub> +10 dBm each, 1 MHz separation	35	40		dBm
9	Current Consumption	I <sub>dd</sub>	V <sub>dd</sub> = +10 V		0.7		A
10	Power Supply Voltage	V <sub>dd</sub>	WLPA80-4540A	+9.5	+10	+10.5	V
11	Thermal Resistance	R <sub>th,c</sub>	Junction to case, last stage transistor, I <sub>d</sub> = 450 mA			13	°C/W
12	Operating Temperature	T <sub>o</sub>		-40		+85	°C
13	Maximum Average RF Input Power	P <sub>IN, MAX</sub>	DC-13 GHz			10	dBm

### Absolute Maximum Ratings

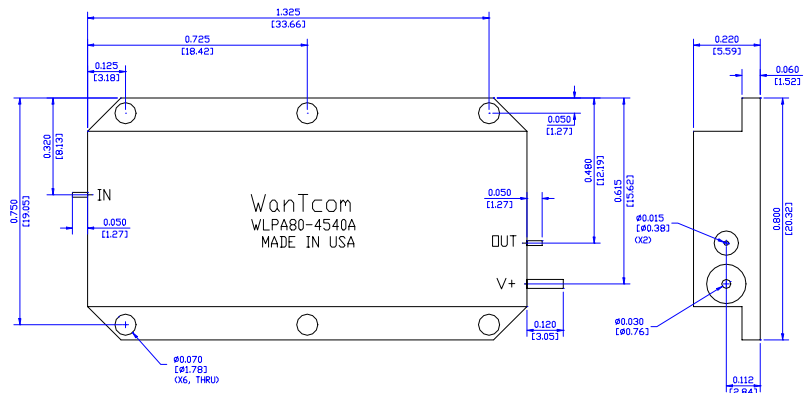
Parameters	Units	Ratings
DC Power Supply Voltage	V	+12V
Drain Current	A	1.0
Total Power Dissipation	W	13
RF Input Power	dBm	10
Channel Temperature	°C	150
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance	°C/W	13

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

### Ordering Information

Model Number	WLPA80-4540A
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### Outline



Specifications and information are subject to change without notice.



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