



# WHM0005AE

## 30 - 530 MHz LOW NOISE WIDE BAND AMPLIFIER

REV A  
April 2009

### Key Features



- 30 – 530 MHz
- 0.80 dB Noise Figure
- 34.0 – 40.0 dBm Output IP<sub>3</sub>
- 24.0 dB Gain
- +/-1.0 dB Gain Flatness
- 24.0 dBm P<sub>1dB</sub>
- 1.5:1 VSWR Fully Matched
- Single Power Supply
- >68 Years MTBF
- RoHS Compliant
- MLS-1 Moisture Sensitivity Level

### Product Description

WHM0005AE integrates WanTcom proprietary low noise amplifier technologies, high frequency micro electronic assembly techniques, and high reliability designs to realize optimum low noise figure, wideband, and high performances together. With single +4.0V DC low power operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard 0.30" x 0.20" x 0.08" surface mount package.

The amplifier is designed to meet the rugged standard of MIL-STD-883.

### Applications

- Mobile Infrastructures
- VHF
- Broadcast
- Security System
- Measurement
- Fixed Wireless

### Specifications

# Preliminary

Summary of the key electrical specifications at room temperature

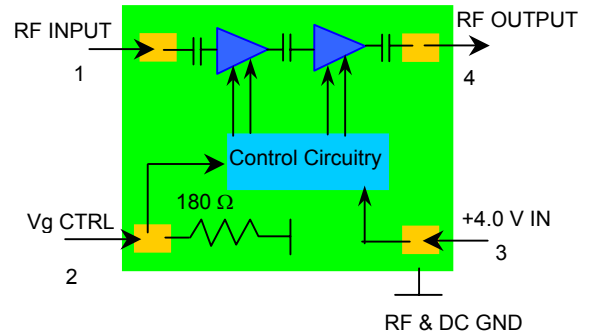
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S <sub>21</sub>	30 – 530 MHz		24		dB
2	Gain Variation	ΔG	30 – 530 MHz		+/-1.0	+/-1.2	dB
3	Input Return Loss	S <sub>11</sub>	30 – 530 MHz	14	16		dB
4	Output Return Loss	S <sub>22</sub>	30 – 530 MHz	10	14		dB
5	Reverse Isolation	S <sub>12</sub>	30 – 530 MHz		20		dB
6	Noise Figure	NF	30 – 100 MHz		1.0	1.5	dB
			100 – 530 MHz		0.75	1.0	
7	Output Power 1dB Compression Point	P <sub>1dB</sub>	30 – 530 MHz	23	24		dBm
8	Output-Third-Order Interception point	IP <sub>3</sub>	Two-Tone, P <sub>out</sub> = 0 dBm each, 1 MHz separation	34			dBm
9	Current Consumption	I <sub>dd</sub>	V <sub>dd</sub> = +4.0 V		140		mA
10	Power Supply Operating Voltage	V <sub>dd</sub>		+3.8	+4.0	+4.2	V
11	Thermal Resistance	R <sub>th,c</sub>	Junction to case			110	°C/W
12	Operating Temperature	T <sub>o</sub>		-40		+85	°C
13	Maximum Average RF Input Power	P <sub>IN, MAX</sub>	DC – 6.0 GHz			13	dBm

### Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	6.0
Drain Current	mA	180
Total Power Dissipation	mW	500
RF Input Power	dBm	13
Channel Temperature	°C	150
Storage Temperature	°C	-65 ~ 150
Operating Temperature	°C	-54 ~ +100
Thermal Resistance	°C/W	220

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

### Functional Block Diagram



### Ordering Information

Model Number	WHM0005AE
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ESD tube is used for the packing. Contact factory for tape and reel packing option for higher volume order.

Specifications and information are subject to change without notice.

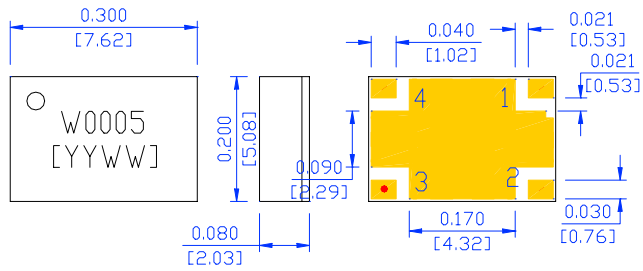


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## Outline,



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