



WHM3542AE

3.7 – 4.2 GHz LOW NOISE WIDE BAND AMPLIFIER

REV A
March 2009

Key Features



- 3.7 ~ 4.2 GHz
- 1.2 dB Noise Figure
- 25 dBm Output IP₃
- 13.0 dB Gain
- +/-0.5 dB Gain Flatness
- 15.0 dBm P_{1dB}
- 1.35:1 VSWR Fully Matched
- Single Power Supply
- RoHS Compliant
- MLS-1 Moisture Sensitivity Level

Product Description

WHM3542AE 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 +5.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard 0.30" x 0.25" x 0.085" surface mount package.

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

Applications

- Mobile Infrastructures
- C-Band Receiver
- Defense
- Security System
- Measurement
- Fixed Wireless

Specifications

Summary of the key electrical specifications at room temperature

Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	3.7 – 4.2 GHz		13		dB
2	Gain Variation	ΔG	3.7 – 4.2 GHz		+/-0.5		dB
3	Input Return Loss	S ₁₁	3.7 – 4.2 GHz	14	18		dB
4	Output Return Loss	S ₂₂	3.7 – 4.2 GHz	14	18		dB
5	Reverse Isolation	S ₁₂	3.7 – 4.2 GHz	16	18		dB
6	Noise Figure	NF	3.7 – 4.2 GHz		1.2	1.5	dB
7	Output Power 1dB Compression Point	P _{1dB}	3.7 – 4.2 GHz	14	15		dBm
8	Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} = 0 dBm each, 1 MHz separation		25		dBm
9	Current Consumption	I _{dd}	V _{dd} = +5.0 V		30		mA
10	Power Supply Operating Voltage	V _{dd}		+4.7	+5	+5.3	V
11	Thermal Resistance	R _{th,c}	Junction to case			220	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	DC – 12.0 GHz			10	dBm

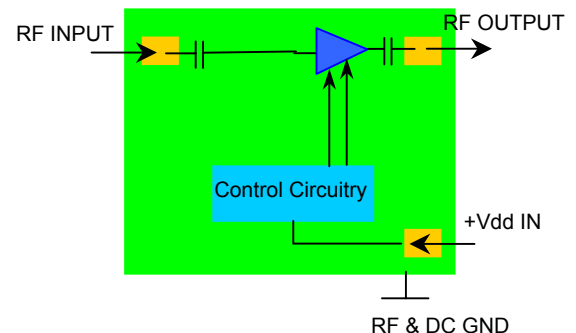
Preliminary

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	6.0
Drain Current	mA	50
Total Power Dissipation	mW	300
RF Input Power	dBm	30
Channel Temperature	°C	150
Storage Temperature	°C	-65 ~ 150
Operating Temperature	°C	-40 ~ +85
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	WHM3542AE
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Waffle pack with the capacity of 81 pieces (9 x 9) 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.

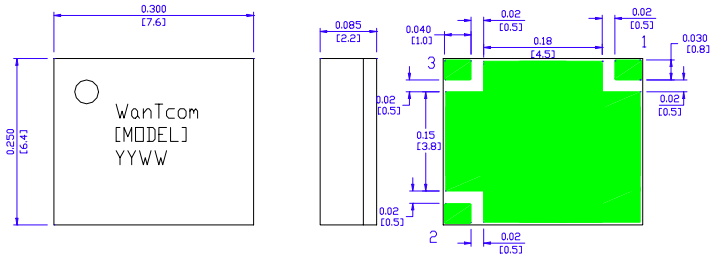


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Outline, WHM-7



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