



WHM0305AE

0.3- 0.5 GHz LOW NOISE AMPLIFIER

REV A
June 2009

Key Features



- 0.3 ~ 0.5 GHz
- 1.2 dB Noise Figure
- 22.0 dBm Output IP₃
- 32.0 dB Gain
- +/-0.20 dB Gain Flatness
- 12.0 dBm P_{1dB}
- 1.5:1 VSWR Fully Matched
- Unconditional Stable, $k > 1$
- >300 Years MTBF
- RoHS Compliant
- MLS-1 Moisture Sensitivity Level

Product Description

WHM0305AE 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 +3.3V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard 0.25" x 0.20" x 0.06" surface mount package.

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

Applications

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

Specifications

Preliminary

Summary of the key electrical specifications at room temperature

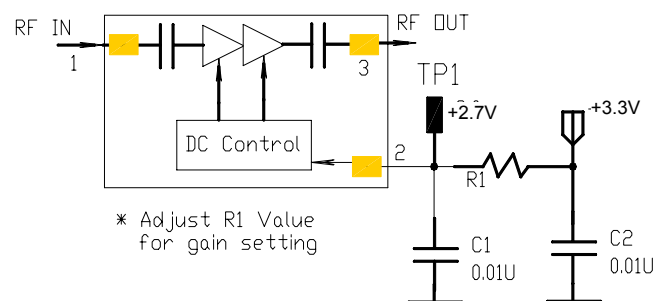
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	0.3 – 0.5 GHz		32		dB
2	Gain Variation	ΔG	0.3 – 0.5 GHz		+/-0.20	+/- 0.50	dB
3	Input VSWR	SWR ₁	0.3 – 0.5 GHz		1.5:1		Ratio
4	Output VSWR	SWR ₂	0.3 – 0.5 GHz		1.5:1		Ratio
5	Reverse Isolation	S ₁₂	0.3 – 0.5 GHz	35	40		dB
6	Noise Figure	NF	0.3 – 0.5 GHz		1.2	1.4	dB
7	Output Power 1dB Compression Point	P _{1dB}	0.3 – 0.5 GHz	10	12		dBm
8	Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} = -10 dBm each, 1 MHz separation		22		dBm
9	Current Consumption	I _{dd}	V _{dd} = +3.3 V, with a 27 Ohm series resistor		25		mA
10	Power Supply Operating Voltage	V _{dd}		+3.0	+3.3	+3.6	V
11	Thermal Resistance	R _{th,c}	Junction to case			215	°C/W
12	Operating Temperature	T _o		-55		+100	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	DC – 6.0 GHz			5	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	7.0
Drain Current	mA	50
Total Power Dissipation	mW	250
RF Input Power	dBm	5
Channel Temperature	°C	150
Storage Temperature	°C	-65 ~ 150
Operating Temperature	°C	-55 ~ +100
Thermal Resistance	°C/W	215

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

Functional Block Diagram



Ordering Information

Model Number	WHM0305AE
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Specifications and information are subject to change without notice.



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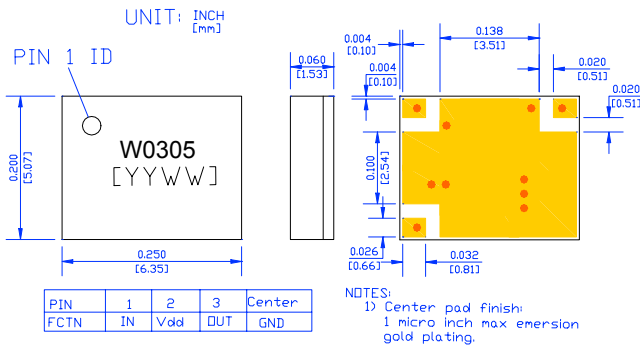
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Waffle pack with the capacity of 100 pieces (10 x 10) is used for the packing. Contact factory for tape and reel packing option for higher volume order.

Typical Data

Outline, WHM-11



Foot Print/Motherboard Layout

