

**WHM0005R****30 - 500 MHz LOW NOISE WIDE BAND AMPLIFIER****REV A**
April 2009

Key Features



- 30 – 500 MHz
- 0.80 dB Noise Figure
- 34.0 dBm Output IP₃
- 24.0 dB Gain
- +/-1.0 dB Gain Flatness
- 24.0 dBm P_{1dB}
- 1.5:1 VSWR Fully Matched
- Single Power Supply
- >68 Years MTBF
- RoHS Compliant
- MLS-1 Moisture Sensitivity Level

Product Description

WHM0005R 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 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 0.25" x 0.35" 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

Summary of the key electrical specifications at room temperature

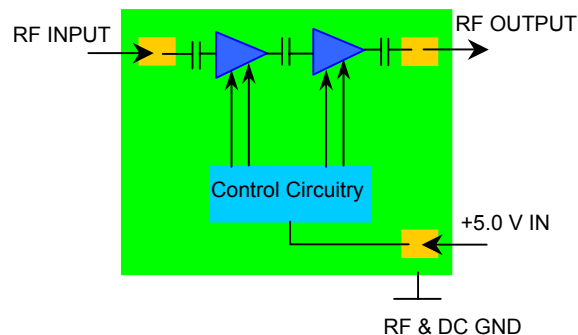
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	30 – 500 MHz		24		dB
2	Gain Variation	ΔG	30 – 500 MHz		+/-1.0	+/-1.25	dB
3	Input VSWR	SWR ₁	30 – 500 MHz		1.35:1	1.5:1	Ratio
4	Output VSWR	SWR ₂	30 – 500 MHz		1.6:1	2:1	Ratio
5	Reverse Isolation	S ₁₂	30 – 500 MHz		20		dB
6	Noise Figure	NF	30 – 100 MHz		1.0	1.4	dB
			100 – 500 MHz		0.75	1.0	
7	Output Power 1dB Compression Point	P _{1dB}	30 – 500 MHz	22	24		dBm
8	Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} = 0 dBm each, 1 MHz separation	34	38	42	dBm
9	Current Consumption	I _{dd}	V _{dd} = +5 V		140		mA
10	Power Supply Operating Voltage	V _{dd}		+4.7	+5.0	+5.3	V
11	Thermal Resistance	R _{th,c}	Junction to case			110	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	DC – 6.0 GHz			13	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	7.0
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	WHM0005R
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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.

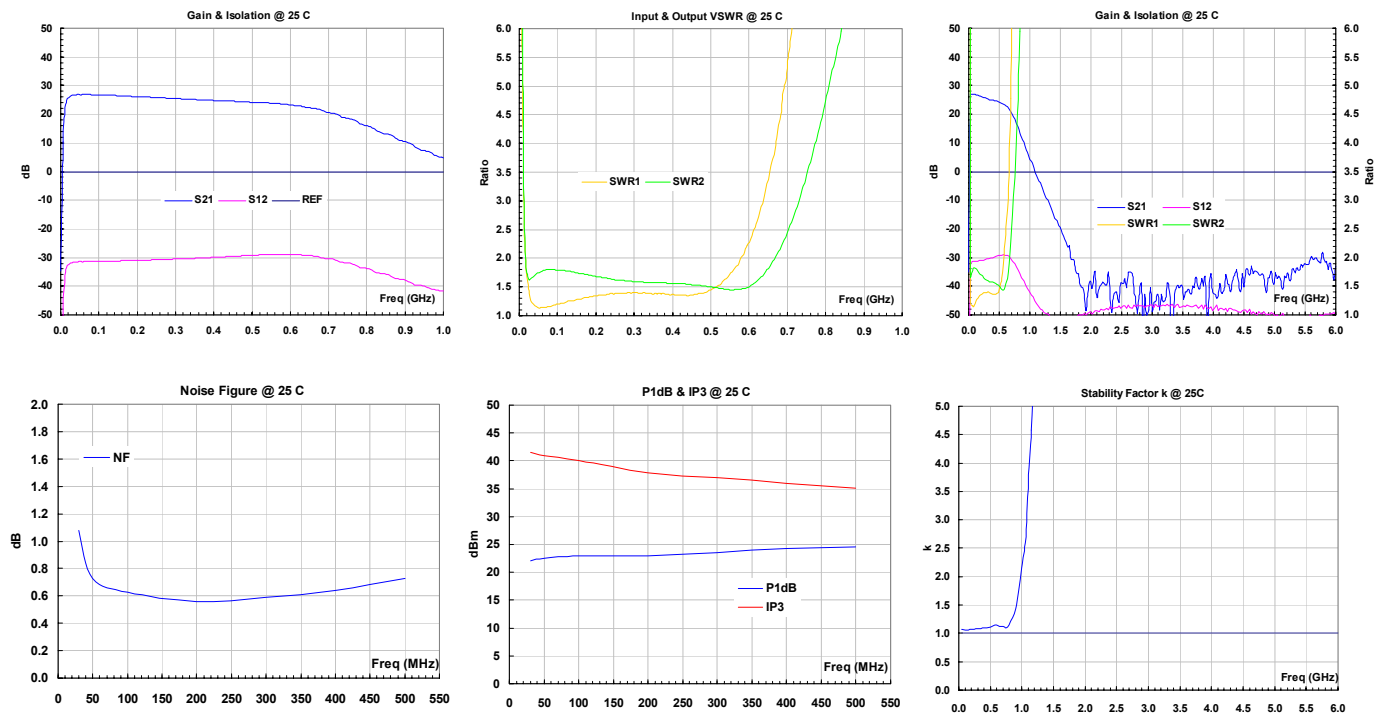


WHM0005R

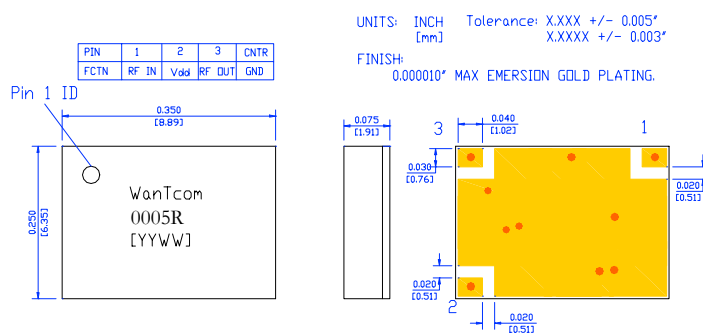
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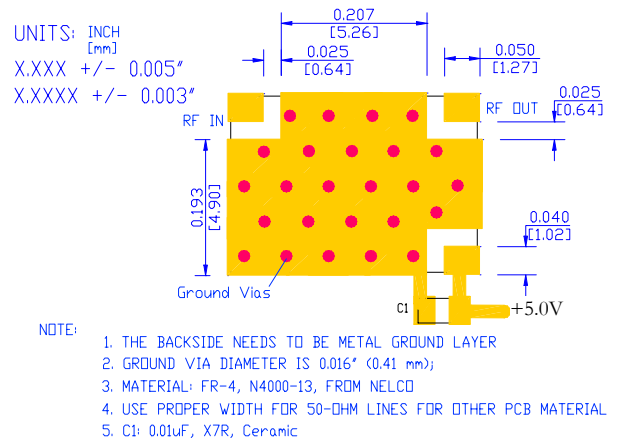
Typical Data



Outline, WHM-5



Foot Print/Mounting Layout



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