



WHM5065AE

5.0- 6.5 GHz LOW NOISE WIDE BAND AMPLIFIER

REV A
August 2008

Key Features



- 5.0 ~ 6.5 GHz
- 0.90 dB Noise Figure
- 23.0 dBm Output IP₃
- 21.0 dB Gain
- +/-1.0 dB Gain Flatness
- 10.0 dBm P_{1dB}
- 1.5:1 VSWR Fully Matched
- Single Power Supply
- >300 Years MTBF
- RoHS Compliant
- MLS-1 Moisture Sensitivity Level

Product Description

WHM5065AE 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 +3.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard 0.25" 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
- ISM Band
- WiMAX
- Defense
- Security System
- Measurement
- Fixed Wireless

Specifications

Preliminary

Summary of the key electrical specifications at room temperature

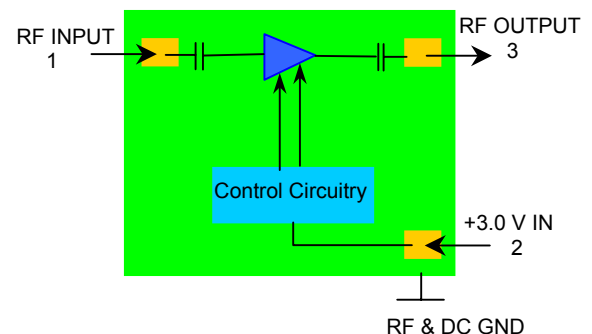
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	5.0 – 6.5 GHz	20	21		dB
2	Gain Variation	ΔG	5.0 – 6.5 GHz		+/-1.0		dB
3	Input VSWR	SWR ₁	5.0 – 6.5 GHz		1.5:1	1.8:1	Ratio
4	Output VSWR	SWR ₂	5.0 – 6.5 GHz		1.4:1	1.5:1	Ratio
5	Reverse Isolation	S ₁₂	5.0 – 6.5 GHz	20	22		dB
6	Noise Figure	NF	5.0 – 6.5 GHz		0.9	1.1	dB
7	Output Power 1dB Compression Point	P _{1dB}	5.0 – 6.5 GHz		10		dBm
8	Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} = 0 dBm each, 1 MHz separation		23		dBm
9	Current Consumption	I _{dd}	V _{dd} = +3.0 V, with 50 Ohm pull-up resistor to +5.0V		40		mA
10	Power Supply Operating Voltage	V _{dd}		+2.5	+3	+3.5	V
11	Thermal Resistance	R _{th,c}	Junction to case			215	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	DC – 26.0 GHz			10	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	7.0
Drain Current	mA	60
Total Power Dissipation	mW	400
RF Input Power	dBm	10
Channel Temperature	°C	150
Storage Temperature	°C	-65 ~ 150
Operating Temperature	°C	-40 ~ +85
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	WHM5065AE
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ESD resistance tube with the quantity of 25 pieces 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.

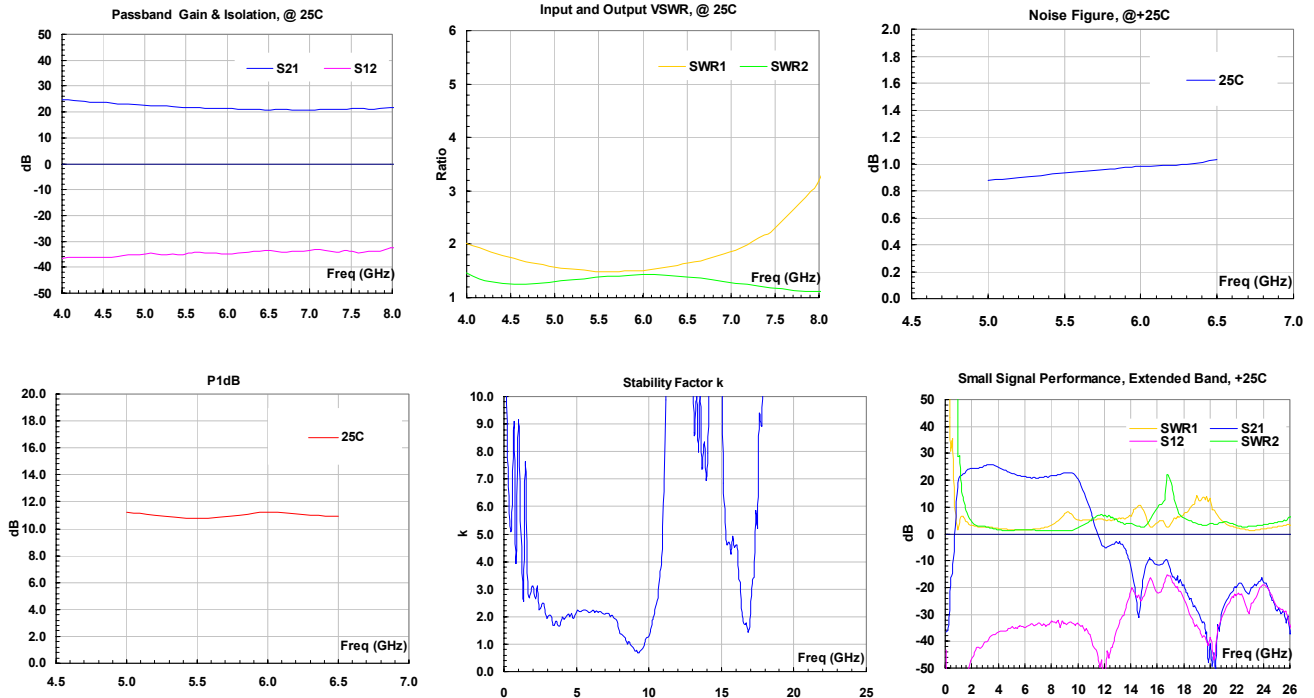


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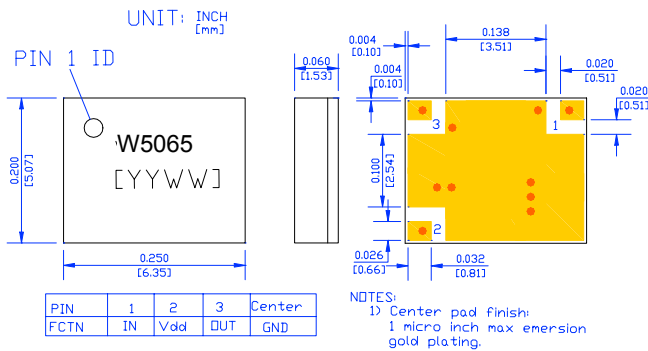
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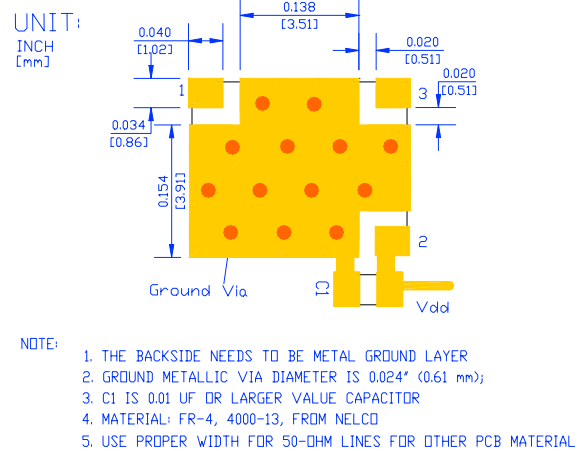
Typical Data



Outline, WHM-11



Foot Print/Motherboard Layout



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