



WHM0406AE

460 - 650 MHz LOW NOISE WIDE BAND AMPLIFIER

REV B
April 2012

Key Features



- 460 – 650 MHz
- 0.60 dB Noise Figure
- 38.0 dBm Output IP_3
- 25.0 dB Gain
- +/-0.3 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

WHM0406AE 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 +3.5V 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

Summary of the key electrical specifications at room temperature

Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S_{21}	460 – 650 MHz		25		dB
2	Gain Variation	ΔG	460 – 650 MHz		+/-0.3	+/- 0.5	dB
3	Input Return Loss	S_{11}	460 – 650 MHz	10	14		dB
4	Output Return Loss	S_{22}	460 – 650 MHz	10	14		dB
5	Reverse Isolation	S_{12}	460 – 650 MHz		20		dB
6	Noise Figure	NF	460 – 650 MHz		0.6	0.7	dB
7	Output Power 1dB Compression Point	P_{1dB}	460 – 650 MHz	22	24		dBm
8	Output-Third-Order Interception point	IP_3	Two-Tone, $P_{out} = 0$ dBm each, 1 MHz separation	34			dBm
9	Current Consumption	I_{dd}	With +5.0 V and a 12.5 Ohm pull-up resistor		130		mA
10	Power Supply Operating Voltage	V_{dd}		+3.0	+3.5	+4.0	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	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

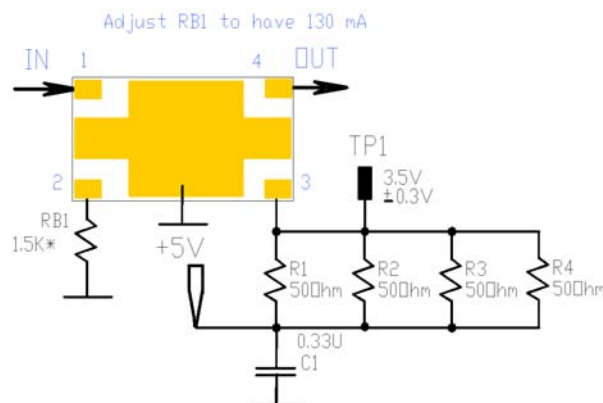
Operation of this device beyond any one of these parameters may cause permanent damage.

Ordering Information

Model Number	WHM0406AE
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ESD tube is used for the packing. Contact factory for tape and reel packing option for higher volume order.

Functional Block Diagram



Specifications and information are subject to change without notice.

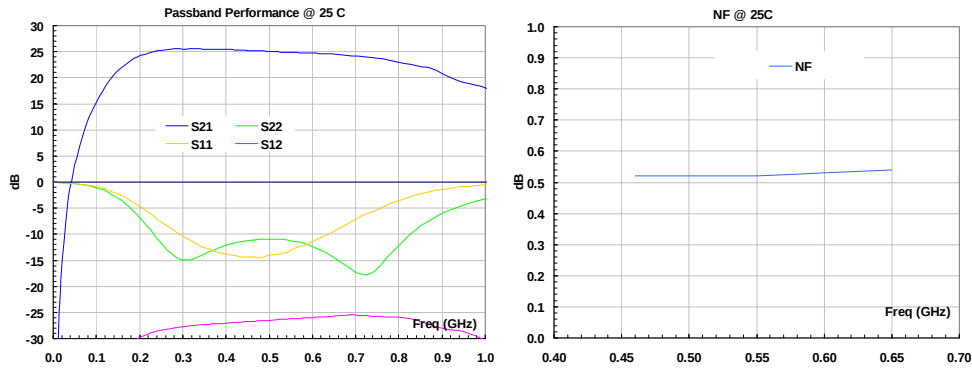


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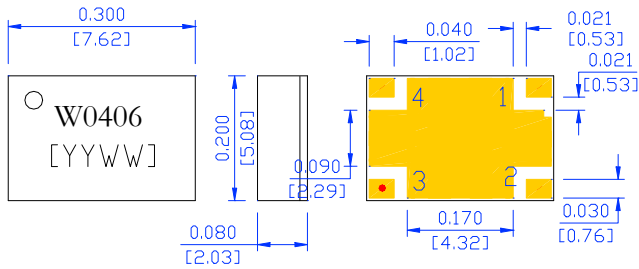
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Typical Data



Outline,



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