

**WPM0002F****50- 150 MHz 2 Watts WIDE BAND POWER AMPLIFIER****REV A**
March 2010

Key Features



- 50 ~ 150 MHz
- 1.8 dB Noise Figure
- 43.0 dBm Output IP₃
- 35.0 dB Gain
- +/-0.2 dB Gain Flatness
- 33.0 dBm P_{sat}
- 1.35:1 VSWR
- Single Power Supply
- >34 Years MTBF
- Unconditional Stable
- RoHS compliant

Product Description

WPM0002F integrates WanTcom proprietary low noise amplifier technology, high frequency micro electronic assembly techniques, and high reliability design to realize optimum low noise figure, wideband, high linearity, and unconditional stable performances together. With single +10.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard miniature WPM-3 gold plated pallet.

The amplifier is designed to meet the rugged standard of MIL-STD-202.

Applications

- FM Communications
- Land Mobiles
- Broadcast
- Security System
- Measurement
- Fixed Wireless

Specifications

Summary of the electrical specifications WPM0002F at room temperature

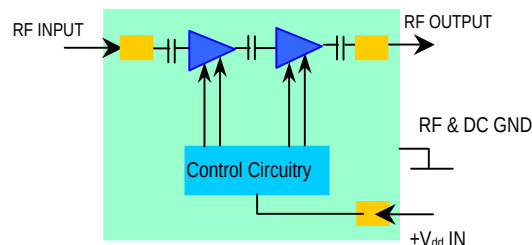
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	50 – 150 MHz		35		dB
2	Gain Variation	ΔG	50 – 150 MHz		+/- 0.2	+/-0.4	dB
3	Input Return Loss	S ₁₁	50 – 150 MHz	13	15		dB
4	Output Return Loss	S ₂₂	50 – 150 MHz	14	17		dB
5	Reverse Isolation	S ₁₂	50 – 150 MHz		70		dB
6	Noise Figure	NF	50 – 150 MHz		1.5	3.0	dB
7	Output Power 1dB compression Point	P _{sat}	50 – 150 MHz	32	33		dBm
8	Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} +10 dBm each, 1 MHz separation	40	43		dBm
9	Current Consumption	I _{dd}	V _{dd} = +10 V		465		mA
10	Power Supply Voltage	V _{dd}		+9.7	+10	+10.5	V
11	Thermal Resistance	R _{th,c}	Junction to case, last stage power transistor		15	20	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	0 – 6 GHz			15	dBm
14	Spurious	P _{o, sp}	20 – 6000 MHz, P _o = P _{sat}	-75			dBc

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	12
Drain Current	mA	500
Total Power Dissipation	W	5.0
RF Input Power	dBm	15
Channel Temperature	°C	150
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance	°C/W	20

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

Functional Block Diagram



Ordering Information

Model Number	WPM0002F
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Preliminary

Specifications and information are subject to change without notice.

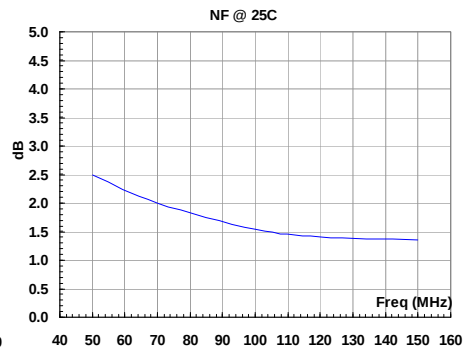
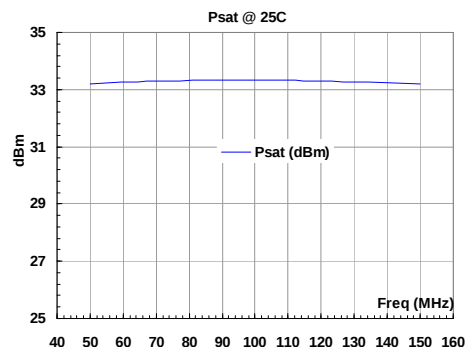
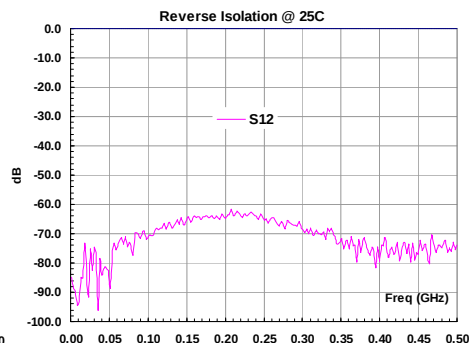
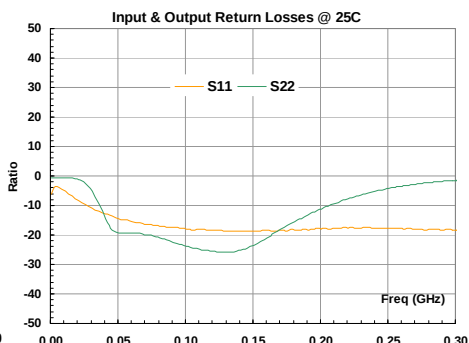
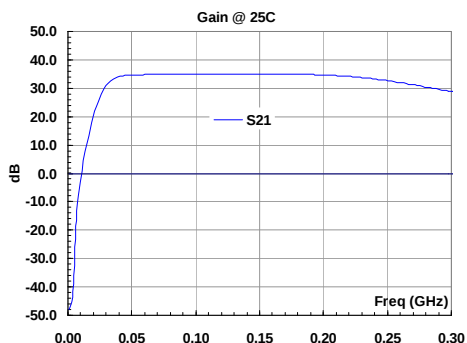


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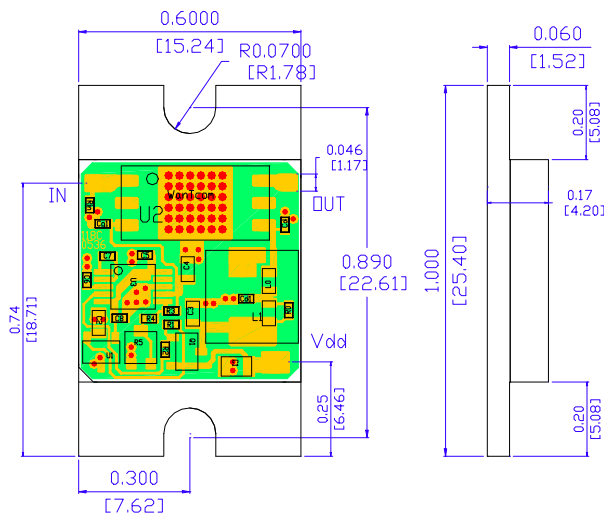
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Typical Data



Outline, WPM-3

UNITS: INCH
[mm]
BODY: Brass
Finish: Gold Plating
RF Connector: SMA F Gold
V_{dd} PWR: Feed through



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