



WPM1216A

1200 – 1600 MHz WIDE BAND POWER AMPLIFIER

REV A
March 2015

Key Features



- 50 Ohm Impedance
- 1200 ~ 1600 MHz
- 2.0 dB Noise Figure
- 45.0 dBm Output IP₃
- 36.0 dB Gain
- +/-0.50 dB Gain Flatness
- 32 dBm P_{1dB}
- 1.5:1 VSWR
- 2.0 uS Turn On Time
- Single Power Supply
- >34 Years MTBF
- Unconditional Stable
- RoHS Compliant

Product Description

WPM1216A is integrated with WanTcom proprietary power amplifier technology, high frequency micro electronic assembly techniques, and high reliability design to realize optimum power added efficiency, 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 WanTcom WPM-3 Gold plated pallet.

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

CAUTION:



ELECTROSTATIC DISCHARGE
SENSITIVE

Applications

- Mobile Infrastructures
- UHF
- Avionics
- Security System
- Measurement
- PA Driver



Specifications

Summary of the electrical specifications WPM1216A at room temperature

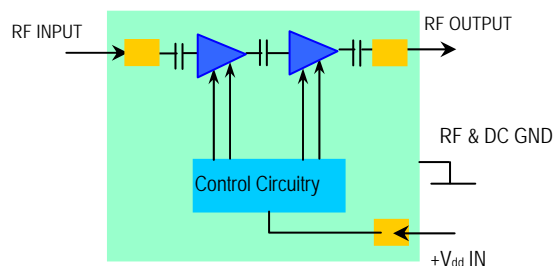
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	1.20 – 1.60 GHz		36		dB
2	Gain Variation	ΔG	1.20 – 1.60 GHz		+/- 0.5	+/-1.0	dB
3	Input VSWR	SWR ₁	1.20 – 1.60 GHz		1.5:1	2:1	Ratio
4	Output VSWR	SWR ₂	1.20 – 1.60 GHz		1.5:1	2:1	Ratio
5	Reverse Isolation	S ₁₂	1.20 – 1.60 GHz		50		dB
6	Noise Figure	NF	1.20 – 1.60 GHz		2.0	2.8	dB
7	Output Power 1dB Compression Point	P _{1dB}	1.20 – 1.60 GHz	31	32		dBm
8	Output-Third-Order Interception Point	IP ₃	Two-Tone, P _{out} +20 dBm each, 1 MHz sep.	40	45		dBm
9	Current Consumption	I _{dd}	V _{dd} = +10 V		470		mA
10	Power Supply Voltage	V _{dd}		+9.5	+10	+10.5	V
11	Thermal Resistance	R _{th,c}	Junction to case			8	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum CW RF Input Power	P _{IN, MAX}	DC – 6 GHz			10	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	12
Drain Current	A	0.6
Total Power Dissipation	W	6
RF Input Power	dBm	10
Channel Temperature	°C	170
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance, last stage	°C/W	20

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

Functional Block Diagram



Ordering Information

Model Number	WPM1216A
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Specifications and information are subject to change without notice.



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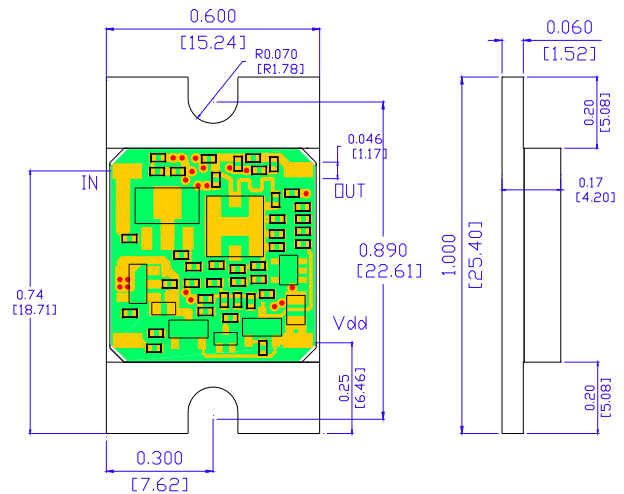
Typical Data

Preliminary

Outline,

1. WPM-3

UNITS:	INCH [mm]
BODY:	Brass
Finish:	Gold Plating
RF Launches:	Mrostrip
V _{dd} PWR:	Microstrip



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Application Notes:

A. Mounting the Amplifier

Use two pieces of #4-40 or M3 with longer than 3/8" screws for mounting the amplifier on a metal-based chase or heat sink. The thermal compound is recommended between the bottom of the pallet and heat sink for maximum heat dissipation. The sufficient heat sink is required. Flat and spring washers are needed to prevent the screw loosening during the shock and vibration. Always use the appropriate torque setting of the power screwdriver to mount the amplifier.

Always be very careful to solder the RF and DC connections to the amplifier. Use 0.01" diameter soldering iron tip to solder the connections. Do not touch any components of the amplifier.
