



WPM1822A

1.8- 2.2 GHz LOW NOISE 4.0 WATTS POWER AMPLIFIER

REV A
March 2010

Key Features



- 1.8 ~ 2.2 GHz
- 1.50 dB noise figure
- 49.0 dBm output IP₃
- 23.0 dB Gain
- 36.0 dBm P_{1dB}
- 1.5:1 VSWR
- Single Power Supply
- >34 Years MTBF
- Unconditional Stable
- RoHS Compliant

Product Description

WPM1822A 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 WPM gold plated pallet.

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

Applications

- Mobile Infrastructures
- 3G
- ISM
- Defense
- Security System
- Measurement
- Fixed Wireless

Specifications

Summary of the electrical specifications WPM1822A at room temperature

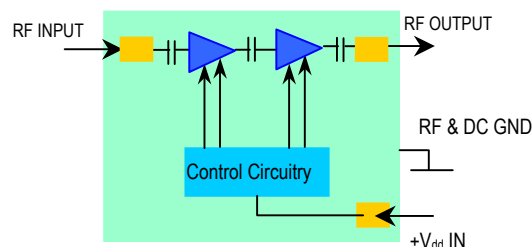
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	1.8 – 2.2 GHz		23		dB
2	Gain Variation	ΔG	1.8 – 2.2 GHz		+/- 0.25	+/-0.5	dB
3	Input VSWR	SWR ₁	1.8 – 2.2 GHz		1.5:1	2:1	Ratio
4	Output VSWR	SWR ₂	1.8 – 2.2 GHz		1.5:1	2:1	Ratio
5	Reverse Isolation	S ₁₂	1.8 – 2.2 GHz	40	43		dB
6	Noise figure	NF	1.8 – 2.2 GHz		1.5	2.0	dB
7	Output Power 1dB compression Point	P _{1dB}	1.8 – 2.2 GHz	34	36		dBm
8	Output-Third-Order Interception point	IP ₃	Two-Tone, P _{out} +0 dBm each, 1 MHz separation	46	49		dBm
9	Current Consumption	I _{dd}	V _{dd} = +10 V		1.05	1.1	A
10	Power Supply Voltage	V _{dd}		+9	+10	+11	V
11	Thermal Resistance	R _{th,c}	Junction to case			9	°C/W
12	Operating Temperature	T _o		-40		+85	°C
13	Maximum Average RF Input Power	P _{IN, MAX}	DC – 6 GHz			20	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	12
Drain Current	A	1.15
Total Power Dissipation	W	12
RF Input Power	dBm	20
Channel Temperature	°C	150
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance	°C/W	9

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

Functional Block Diagram



Ordering Information

Model Number	WPM1822A
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Specifications and information are subject to change without notice.



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Typical Data

Outline,

UNITS: INCH
[mm]
BODY: Brass
Finish: Gold Plating
RF I/O: Microstrip
V_{dd} PWR: Microstrip

