



WBPA1016A

1.0- 1.6 GHz 2.0-WATT WIDE BAND POWER AMPLIFIER

REV C
September 2016

Key Features



- 50 Ohm Impedance
- 1.0 ~ 1.6 GHz
- 2.6 dB Noise Figure
- 45.0 dBm Output IP₃
- 27.0 dB Gain
- +/-0.5 dB Gain Flatness
- 33.0 dBm P_{1dB}
- 1.35:1 VSWR
- Single DC Power Supply
- >34 Years MTBF
- Unconditional Stable
- RoHS Compliant

Product Description

WBPA1016A is integrated with WanTcom proprietary power amplifier technology, high frequency micro electronic assembly techniques, and high reliability design to realize optimum high power, wide bandwidth, high linearity, and unconditional stable performances together. With single DC voltage operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard SMA miniature connectorized WP-5 Gold plated housing.

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

CAUTION:



ELECTROSTATIC DISCHARGE SENSITIVE

Applications

- Mobile Infrastructures
- GPS
- Astronomy
- Defense
- Security System
- Measurement
- Fixed Wireless



Specifications

Summary of the electrical specifications WBPA1016A at room temperature

Additional heat sink is required for continuous operation!

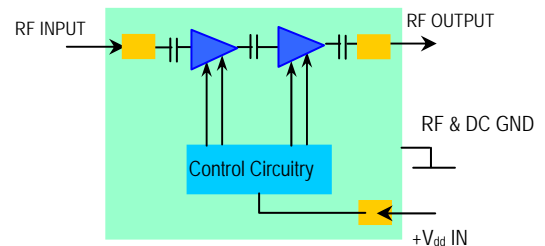
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	1.0 – 1.6 GHz	25	27	29	dB
2	Gain Variation	ΔG	1.0 – 1.6 GHz		+/- 0.5	+/-0.75	dB
3	Input VSWR	SWR ₁	1.0 – 1.6 GHz		1.35:1	1.5:1	Ratio
4	Output VSWR	SWR ₂	1.0 – 1.6 GHz		1.35:1	1.5:1	Ratio
5	Reverse Isolation	S ₁₂	1.0 – 1.6 GHz		48		dB
6	Noise Figure	NF	1.0 – 1.6 GHz		2.6	3.0	dB
7	Output 1dB Gain Compression Point	P _{1dB}	1.0 – 1.6 GHz	31	33		dBm
8	Output Third Order Interception Point	IP ₃	Two-tone, P _{out} =+20 dBm each, 1 MHz sep.	42	45		dBm
9	Current Consumption	I _{dd}	V _{dd} = +12V		500		mA
10	Power Supply Voltage	V _{dd}		+11.7	+12.0	+12.3	V
11	Thermal Resistance, Junction to Case	R _{th,c}	Last stage transistor V _{ds} = 10V, I _{ds} = 400 mA			18	°C/W
12	Operating Temperature	T _o	--	-40		+85	°C
13	Maximum Input CW RF Power	P _{IN, MAX}	DC – 6 GHz			13	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	-0.5, +13V
Drain Current	mA	700
Total Power Dissipation	W	6.5
Input CW RF Power	dBm	13
Junction Temperature	°C	160
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85
Thermal Resistance	°C/W	18

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

Functional Block Diagram



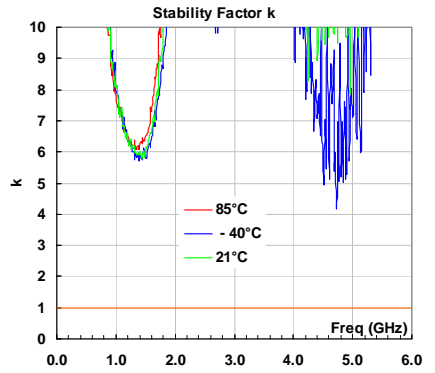
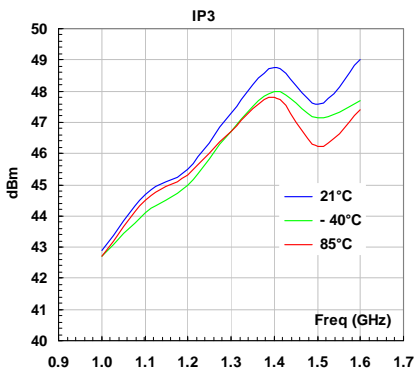
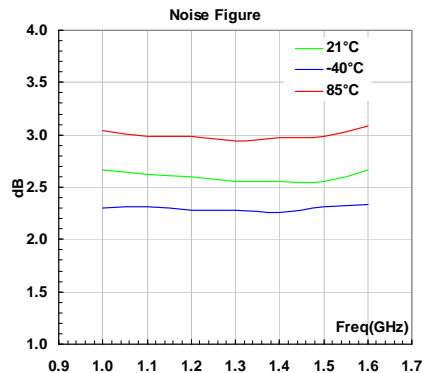
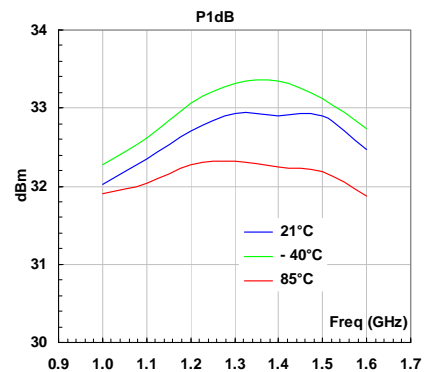
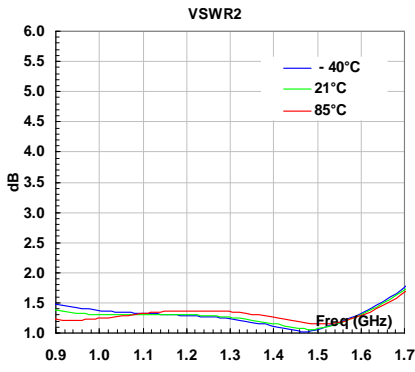
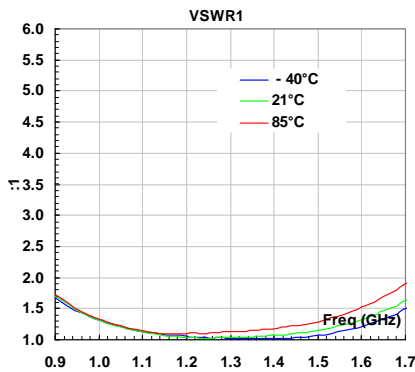
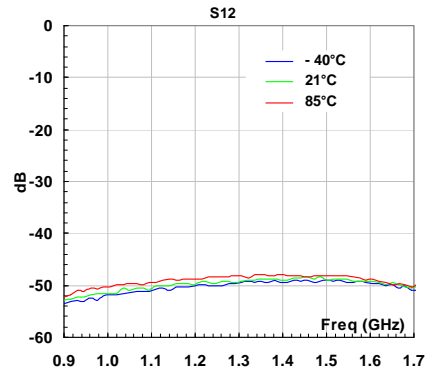
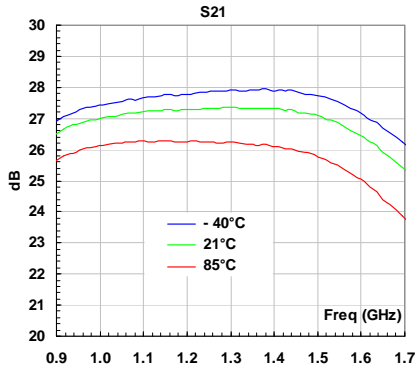
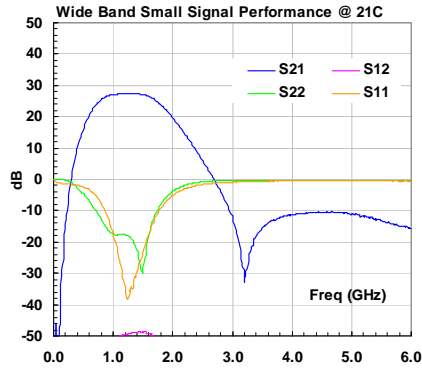
Ordering Information

Model Number	WBPA1016A
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Specifications and information are subject to change without notice.



Typical Data



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