



WBA8096A

8.0 – 9.6 GHz LOW NOISE WIDE BAND AMPLIFIER

REV B
March 2017

Key Features



- 8.0 ~ 9.6 GHz
- 1.0 dB Noise Figure
- 10.0 dBm output P_{1dB}
- 34.0 dB Gain
- +/-0.5 dB Gain Flatness
- 1.5:1 VSWR
- Single Power Supply
- >34 years MTBF
- Unconditional Stable
- RoHS Compliant

Product Description

WBA8096A is integrated with 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 +15V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has field replaceable SMA connectorized WP-10 Gold plated housing.

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

CAUTION:



ELECTROSTATIC DISCHARGE SENSITIVE

Applications

- Microwave Radio
- Satellite VSAT & DBS
- WLL & MMDS
- Test Instrument

Specifications

Summary of the electrical specifications WBA8096A at room temperature, 21 °C

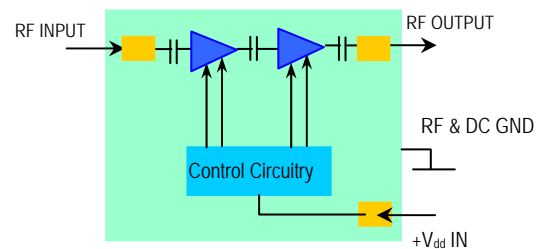
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S_{21}	8.0 – 9.6 GHz		34		dB
2	Gain Variation	ΔG	8.0 – 9.6 GHz		+/- 0.50	+/- 1.0	dB
3	Input VSWR	SWR_1	8.0 – 9.6 GHz			2.0:1	Ratio
4	Output VSWR	SWR_2	8.0 – 9.6 GHz			2.0:1	Ratio
5	Reverse Isolation	S_{12}	8.0 – 9.6 GHz		40		dB
6	Noise Figure	NF	8.0 – 9.6 GHz		1.0	1.2	dB
7	Output 1dB Gain Compression Point	P_{1dB}	8.0 – 9.6 GHz		10		dBm
8	Output 3 rd Order Interception Point	IP_3	8.0 – 9.6 GHz, $f_2-f_1=1.0$ MHz, $P_o = 0$ dBm		23		dBm
9	Current Consumption	I_{dd}	$V_{dd} = +8V \sim +18V$		65		mA
10	Power Supply Voltage	V_{dd}		+8	+15	+18	V
11	Operating Temperature	T_o		-40		+85	°C
12	Maximum Input CW RF Power	$P_{IN, MAX}$	DC – 26.0 GHz			10	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	-0.5, 18
Drain Current	mA	100
Total Power Dissipation	W	1.5
RF Input Power	dBm	10
Channel Temperature	°C	175
Storage Temperature	°C	-55 ~ 125
Operating Temperature	°C	-40 ~ 85

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

Functional Block Diagram



Ordering Information

Model Number
WBA8096A

Specifications and information are subject to change without notice.



Application Notes:

A. SMA Torque Wrench Selection

Always use a torque wrench with 5 ~ 6 inch-lb coupling torque setting for mating the SMA cables to the amplifier. Never use torque more than 8 inch-lb wrench for tightening the mating cable to the connector. Otherwise, the permanent damage will occur to the SMA connectors of the amplifier. 8710-1582 (5 inch-lb) is one of the ideal torque wrench choice from Agilent Technology.

B. Mounting the Amplifier

Use three pieces of #4-40 with longer than 9/16" screws for mounting the amplifier on a metal-based chase. 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 them. Heat sink is needed. A thermal film such T-gon is recommended between the bottom of the amplifier and the heat sink surface for maximum heat dissipation.
