WBA220260A

22.0 – 26.0 GHz LOW NOISE WIDE BAND

REV A
October 2015

Key Features

- 50 Ohm Impedance
- 22.0 ~ 26.0 GHz
- 2.5 dB Noise Figure
- 8.0 dBm Output P_{1dB}
- 22.0 dB Gain
- +/-1.0 dB Gain Flatness
- 1.8:1 VSWR
- Single Power Supply
- >34 years MTBF
- Unconditional Stable
- RoHS compliant

Product Description

CAUTION: ELECTROSTATIC DISCHARGE SENSITIVE

WBA220260A 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 +5.0V DC operation, the amplifier has optimal input and output matching in the specified frequency range at 50-Ohm impedance system. The amplifier has standard field replaceable SMA connectorized WP-10 Gold plated housing.

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

Applications

- Microwave Radio
- Satellite VSAT & DBS
- 802.16 & 802.20 WiMAX
- WLL & MMDS
- Test Instrument

Specifications

Summary of the electrical specifications WBA220260A at room temperature

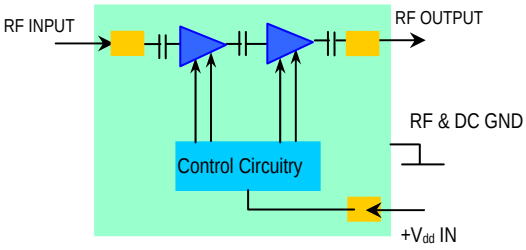
Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S_{21}	22.0 – 26.0 GHz		22		dB
2	Gain Variation	ΔG	22.0 – 26.0 GHz		+/- 1.0		dB
3	Input VSWR	SWR_1	22.0 – 26.0 GHz		1.8:1	2.0:1	Ratio
4	Output VSWR	SWR_2	22.0 – 26.0 GHz		1.8:1	2.0:1	Ratio
5	Reverse Isolation	S_{12}	22.0 – 26.0 GHz		40		dB
6	Noise figure	NF	22.0 – 26.0 GHz		2.5	3.0	dB
7	Output Power 1dB compression Point	P_{1dB}	22.0 – 26.0 GHz		8		dBm
8	Output Power IP_3	IP_3	22.0 – 26.0 GHz		18		dBm
9	Current Consumption	I_{dd}	V_{dd}= +5 V		65		mA
10	Power Supply Voltage	V_{dd}		+4.7	+5	+5.3	V
11	Operating Temperature	T_o		-40		+85	°C
12	Maximum Average RF Input Power	$P_{IN, MAX}$	DC – 26.0 GHz			10	dBm

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	6.0
Drain Current	mA	80
Total Power Dissipation	mW	400
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
WBA220260A

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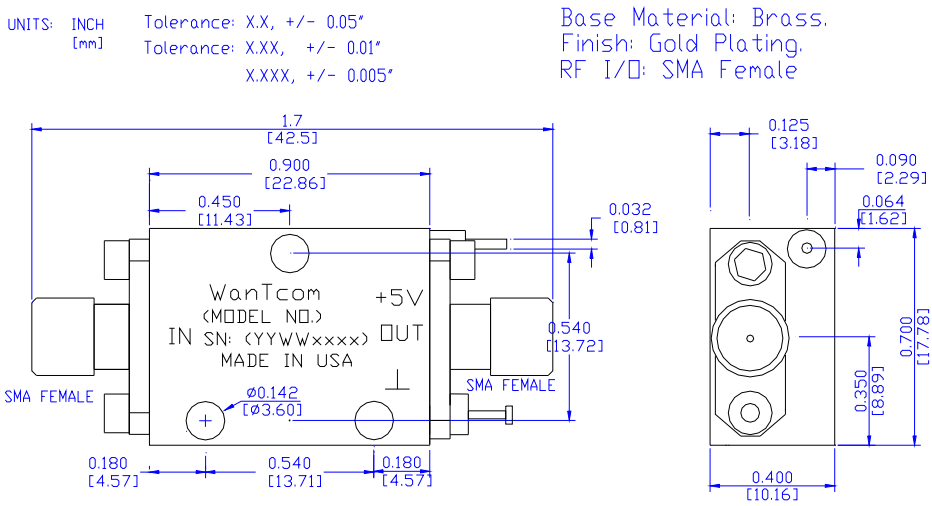
Typical Data

Preliminary

Outline, WP-10 Housing

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



For the pin type input and output application, remove the input and output SMA connectors.

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.

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