



WLLA5060A

4.4 – 6.5 GHz LOW NOISE LIMITER WIDE BAND AMPLIFIER

REV C
June 2016

Key Features

- 50 Ohm Impedance
- 4.4 ~ 6.5 GHz
- 0.95 dB noise figure
- 30 dBm Max CW Input Power
- 18.0 dBm output IP₃
- 27.0 dB Gain
- 9.0 dBm P_{1dB}
- 1.5:1 VSWR
- Single Power Supply
- Unconditional Stable
- **MADE IN USA**



Applications

- ISM Band
- Security System
- Measurement
- Fixed Wireless

CAUTION:



ELECTROSTATIC DISCHARGE
SENSITIVE

Absolute Maximum Ratings

Parameters	Units	Rating
DC Power Supply Voltage	V	6.0
Drain Current	mA	70
Total Power Dissipation	mW	300
RF CW Input Power	dBm	30
Channel Temperature	°C	150
Storage Temperature	°C	-55~125
Operating Temperature	°C	-40~85
Thermal Resistance	°C/W	220

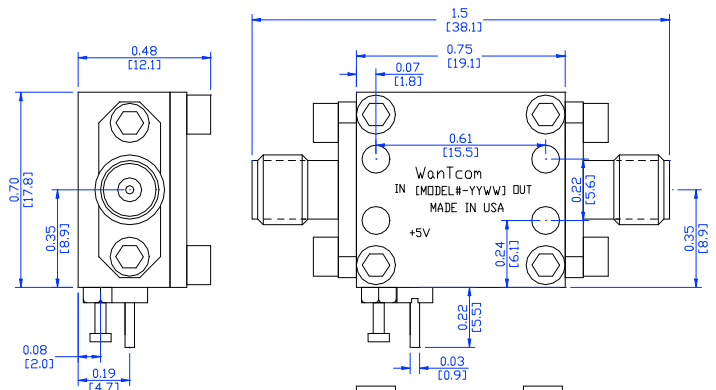
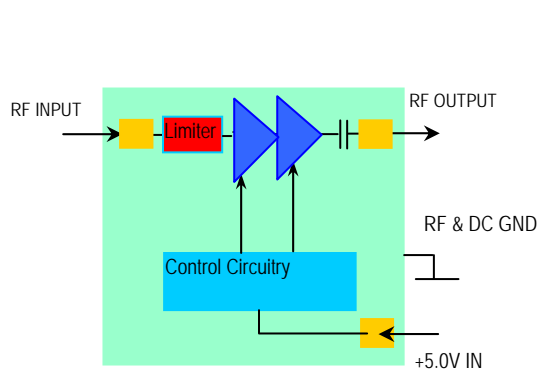
Operation of this device above any one of these parameters may cause permanent damage.



Specifications

Summary of the electrical specifications WLLA5060A at room temperature

Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Gain	S ₂₁	4.4 – 6.5 GHz	25.5	27	28.5	dB
2	Gain Variation	ΔG	4.4 – 6.5 GHz		+/- 0.25	+/-0.5	dB
3	Input VSWR	SWR ₁	4.4 – 6.5 GHz		1.5:1	1.8:1	Ratio
4	Output VSWR	SWR ₂	4.4 – 6.5 GHz		1.5:1	1.8:1	Ratio
5	Reverse Isolation	S ₁₂	4.4 – 6.5 GHz	35	40		dB
6	Noise Figure	NF	4.4 – 6.5 GHz		0.95	1.15	dB
7	Output Power 1dB Compression Point	P _{1dB}	4.4 – 6.5 GHz	7	9		dBm
8	Output-Third-Order Interception Point	IP ₃	Two-Tone, P _{out} = 0 dBm each, 1 MHz separation	16	18		dBm
9	Current Consumption	I _{dd}	@ 21 °C room temperature		45		mA
10	DC Power Supply Voltage	V _{dd}		+4.7	+5.0	+5.3	V
11	Thermal Resistance	R _{th,c}	Junction to case			220	°C/W
12	Operating Temperature	T _o	Case temperature at the bottom of the housing	-40		+85	°C
13	Maximum CW RF Input Power	P _{IN, MAX}	DC – 13 GHz			30	dBm
14	Spurious	P _{spur}	DC – 13 GHz	-70			dBc



Outline, WP-30 Housing

Ordering Information

Model Number	WLLA5060A
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NOTES

1. MATERIAL: ALUMINUM ALLOY: 6061
2. TOLERANCE IS NON-ACCUMULATIVE
3. FINISH:
 - A. Conductive clear plating, RoHS Compliant.

Specifications and information are subject to change without notice.



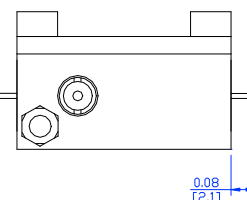
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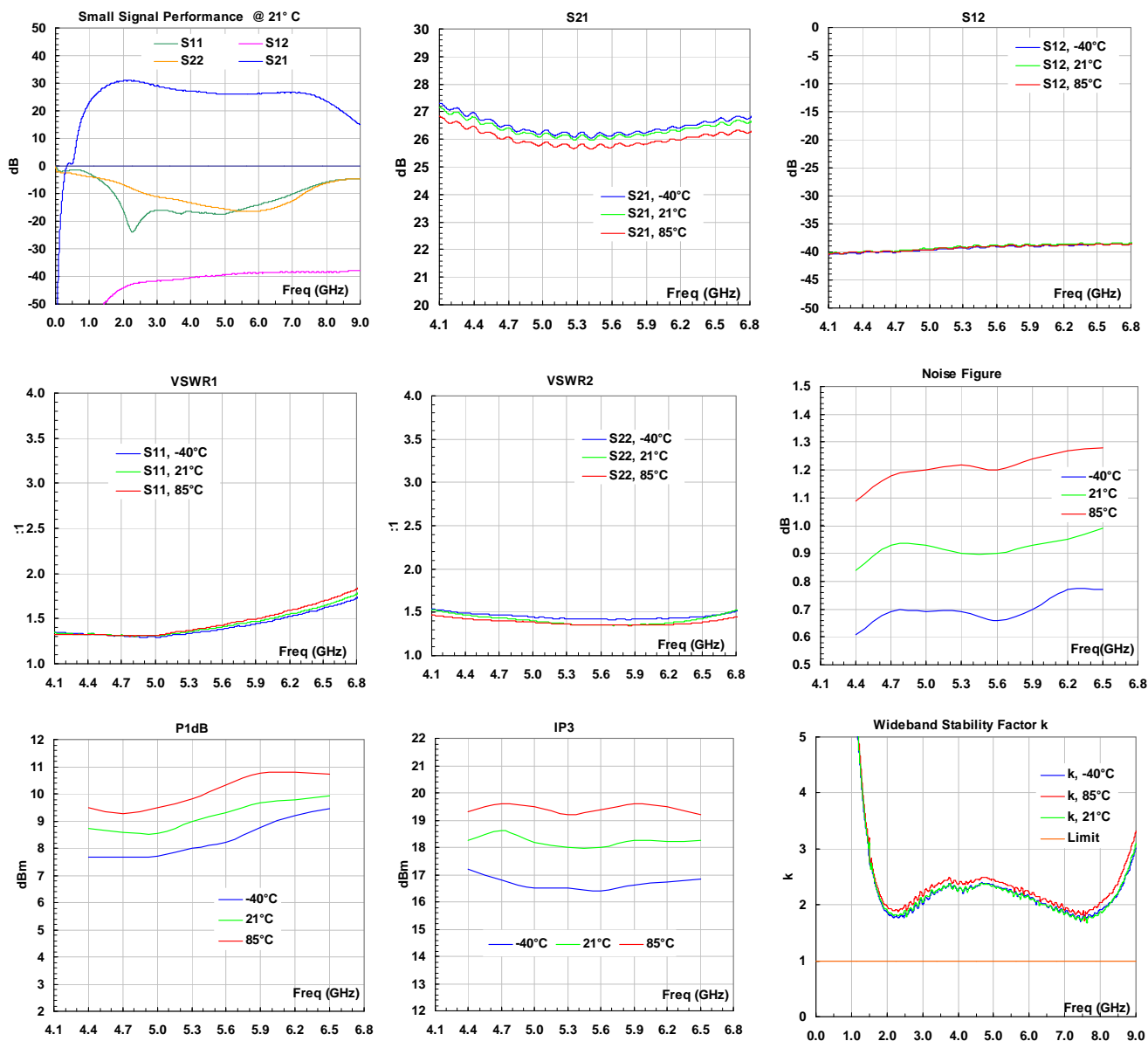
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Field replaceable SMA
connectors removed

RF PORTS: SMA F, Field Replaceable 2X
0.018" Diameter Pins, 2X



Typical Performance



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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 #2-56 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.

C. DC Power Line Connection

Strip the insulation layer at the end of DC power supply wire. The stripped distance should be in the range of 0.100" to 0.200". The 24 ~ 26 American Wire Gauge wire is suitable. Wound the stripped terminal wire about 3/4 to 1 turn on the DC feed thru center pin. Solder the wounded wire and the center pin together. Clean the soldering area by Q-tip with alcohol to remove the flux and residue. Do not use larger soldering iron tip for the soldering work. 0.010" ~ 0.015" soldering size is recommended. Too large tip or too high temperature can damage the DC feed thru pin!

Repeat the process to solder the DC return wire on the ground turret.
