BROADBAND POWER AMPLIFIER
ABP0600-01-3629 Revision A01

Features:

- Broad band operation from 0.06 GHz to 6.0 GHz
- Low VSWR, unconditional stable
- SMA female connector I/O.
- Single DC power supply, internal voltage regulator, operating voltage from +10~+12V
- Operating temperature -40~+75°C, storage temperature -55~+125°C

General Description

ABP0600-01-3629 is a three stage GaAs MMIC HEMT based broadband power amplifier module operating in the frequency from 60MHz to 6.0GHz. The amplifier provides 36dB of small signal gain and 29dBm typical output power at 1 dB gain compression point. The amplifier requires only a single positive DC power supply. Its built-in DC voltage regulator allows the amplifier to functional at different DC supply voltages without affecting the RF performances.

Electrical Specifications

Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	GHz	0.06		6.0
Small Signal Gain @25°C	dB	33.0	36.0	39.0
Noise Figure @25°C 60~200MHz 200~6000MHz	dB		 7.0 5.0	 8.0 6.0
P-1dB Compression Point	dBm	+27.5	+29.0	
Output IP3	dBm	+35.0	+39.0	
Gain flatness	dB		+/-1.5	+/-2.0
Gain Variation over temp.	dB		+/-2.0	
Input VSWR			1.8:1	2.5:1
Output VSWR			1.5:1	2.0:1
Reverse Isolation	dB	45.0	50.0	
Non-Harmonic Spurious	dBc			-60.0
Operating Temperature	°C	-40		+75
Survival Temperature	°C	-55		+125
DC Voltage	V	+13.0	+15.0	+18.0
DC Supply Current	mA	500 mA	580 mA	660 mA
In/Out connectors		SMA Female		
Outline Dimensions for ABP0600-01-3629 without heatsink	inches	1.50”x1.00”x0.40”		
Outline Dimensions for ABP0600-01-3629-X with heatsink	inches	1.50”x4.75”x1.25”		

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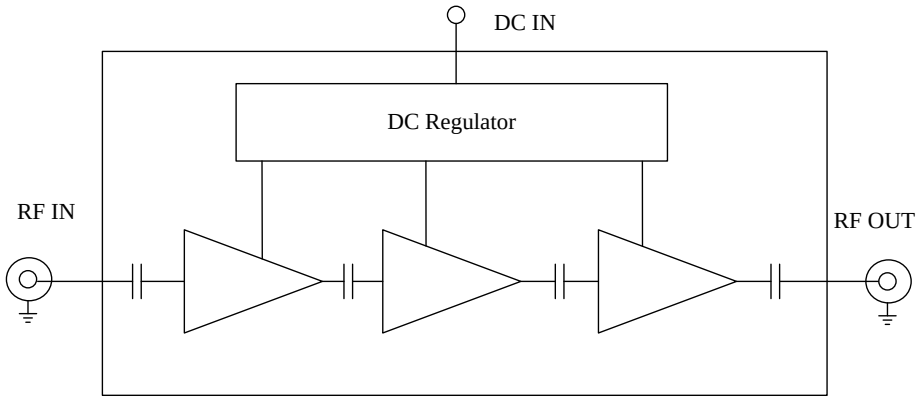
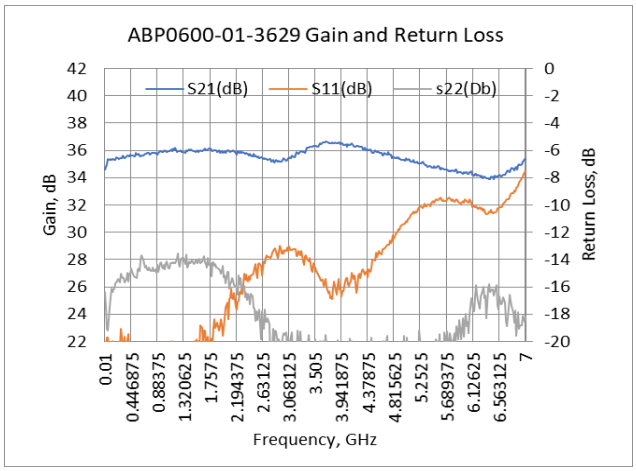
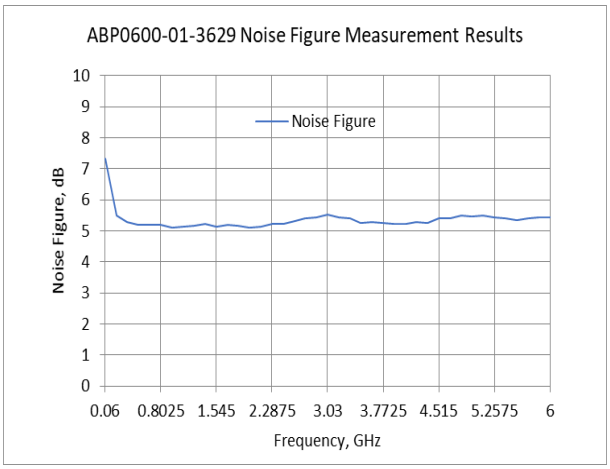
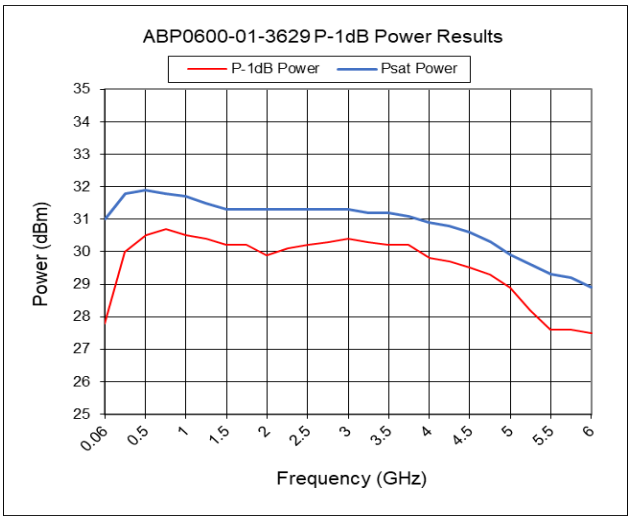
Functional Diagram

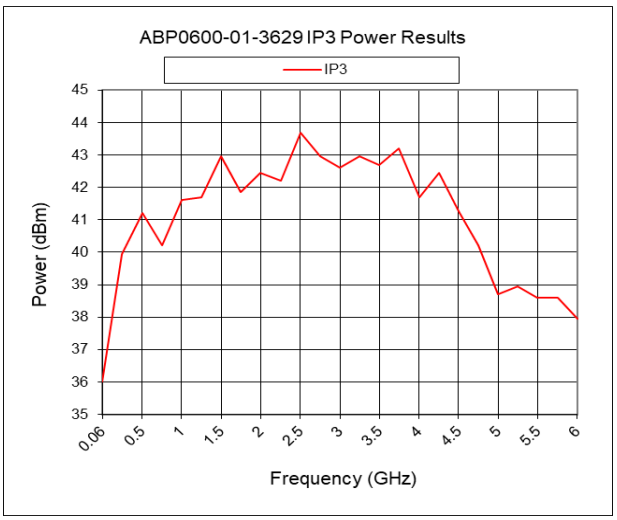


Test Results:

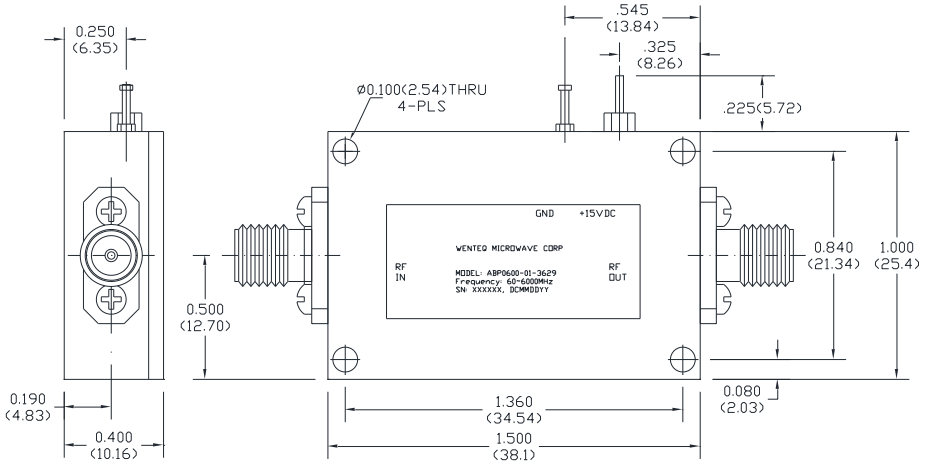




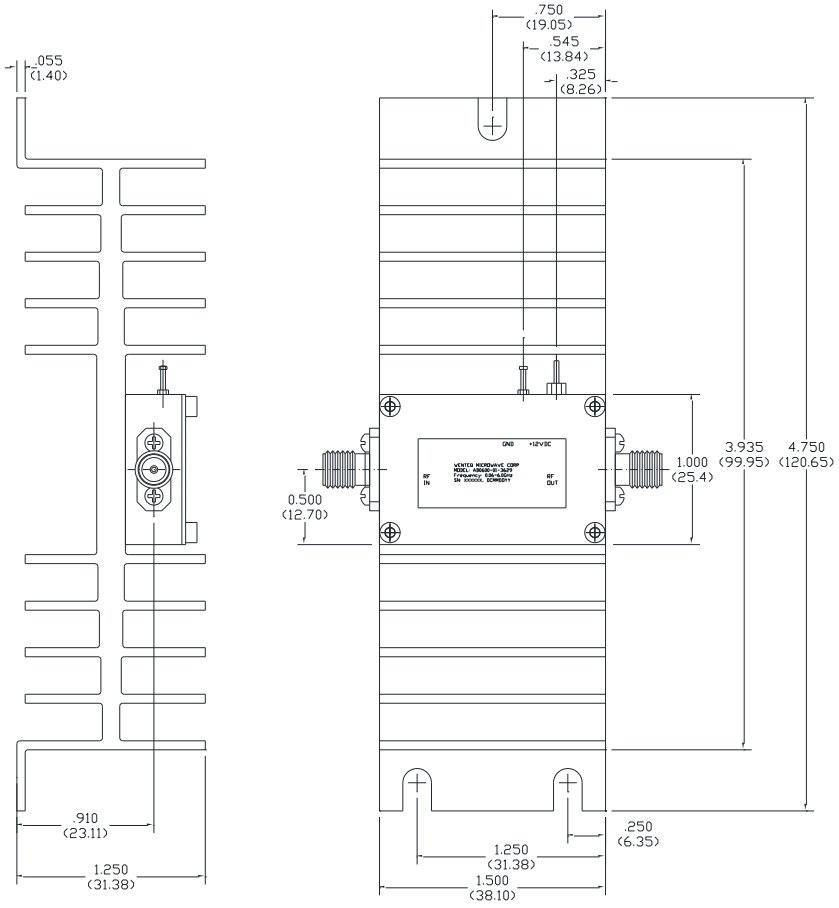




Mechanical Structure:



(a) ABP0600-01-3629 Amplifier without heatsink



(b) ABP0600-01-3629-X Amplifier with heatsink

Note: All units are in inches (mm). Tolerances are +/-0.005 inch unless otherwise specified

Housing Material and Surface Finish:

Body and cover material: aluminum
Surface finish: nickel plated
Connector material: Copper
Connector surface finish: gold plated
Heatsink material: Aluminum, surface finish: Black anodized

Absolute Maximum Ratings

DC Voltage	+18V
RF Input Power	0 dBm
Storage Temperature	-55~+125°C
Operating Temperature	-40~+75°C

Revision History:

Revision	Date	Description	Comments
A00	06/30/2016	Initial Release	
A01	02/07.2023	Added plots and heatsink outline	

WARNING: This device is electrostatic sensitive, please observe precautions for safe handling this amplifier.

WARNING: This product can expose you to chemicals including Nickel (Metallic) and Gallium Arsenide which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to **www.P65warnings.ca.gov**.