BROADBAND RF POWER AMPLIFIER
ABP0400-01-2623 Revision A02

Features:

- 23dBm typical P-1dB output Power from 50MHz to 4.0 GHz
- high gain with good gain flatness
- Low VSWR, unconditional stable
- SMA female connector I/O
- Single DC power supply, Integrated internal voltage regulator
- Operating temperature -40~+75°C, storage temperature -55~+125°C

General Description

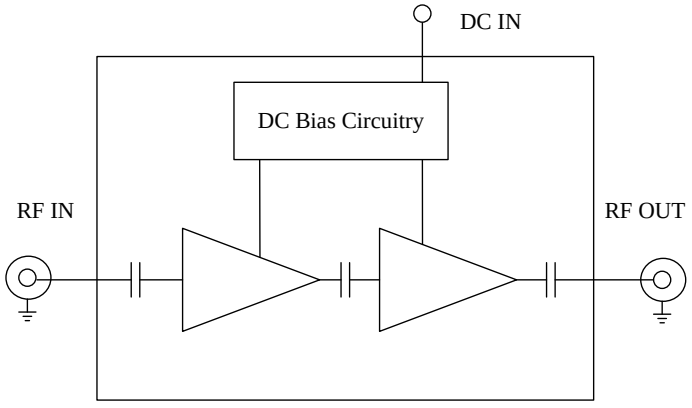
ABP0400-01-2623 is a two stage pHEMT broadband power amplifier module operating in the frequency of 50MHz to 4GHz. The amplifier provides 26dB of small signal gain, +23dBm of typical output power at 1dB gain compression, excellent gain flatness and good VSWR at both input and output. The amplifier requires only a positive DC power supply, its built-in DC voltage regulator and internal sequencing circuitry makes the application more robust.

Typical Applications

ABP0400-01-2623 is ideal for:

- General laboratory test application
- Academic research
- Defense industry
- Communication systems

Functional Diagram



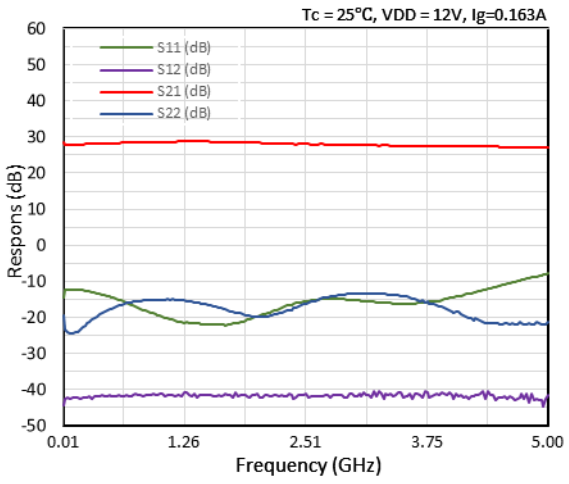
138 W Pomona Ave, Monrovia, CA 91016
Phone: (626) 305-6666, Fax: (626) 602-3101, sales@wenteq.com, www.wenteq.com

Electrical Specifications

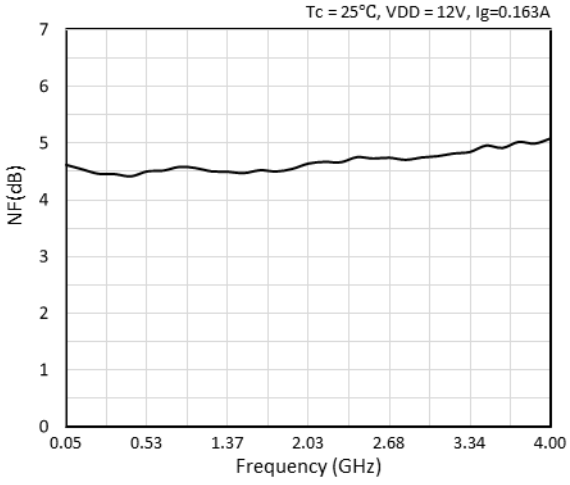
Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	MHz	50.0		4000.0
P-1dB Compression Point	dBm	+22.0	+23.0	
Output IP3	dBm	+30.0	+35.0	
Nominal SS Gain @25°C	dB	24.0	26.0	28.0
Gain flatness	dB		+/-0.8	+/-1.0
Gain Variation	dB		+/-1.0	
Noise Figure	dB		5.0	6.5
Input VSWR	-		1.6:1	1.8:1
Output VSWR	-		1.6:1	1.8:1
Reverse Isolation	dB	35.0	40.0	
Non-harmonic Spurious	dBc			-60.0
Operating Temperature	°C	-40.0		+75.0
Survival Temperature	°C	-55.0		+125.0
Recommended DC Voltage	V	+11.0	+12.0	+13.0
DC Supply Current	mA	115.0	163.0	320.0
In/Out connectors	-	50Ω SMA female		
Outline Dimensions (not including SMA and feed pin)	inches	1.5”x1.0”x0.40”		

Typical Test Results:

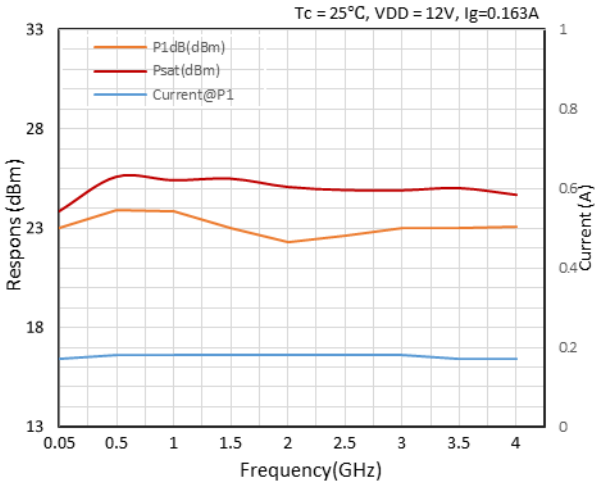
Gain & ReturnLoss



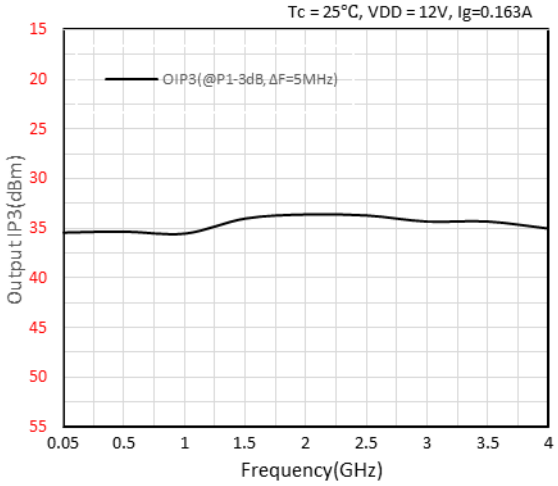
Noise Figure



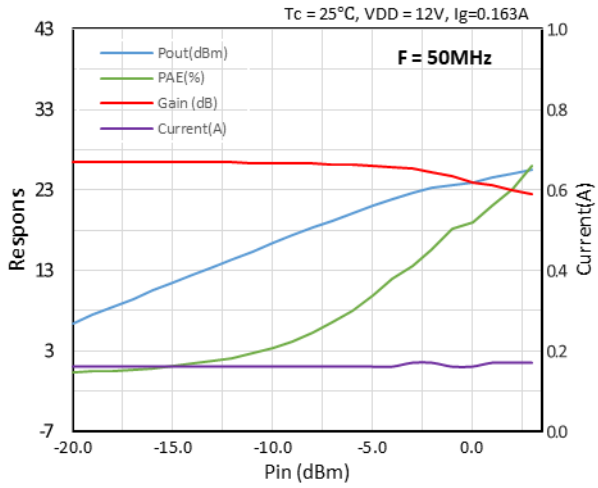
Gain & Output Power vs. Frequency



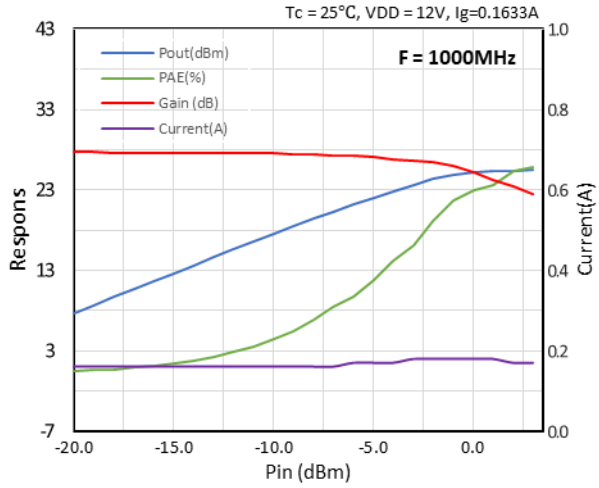
Output IP3 vs. Frequency



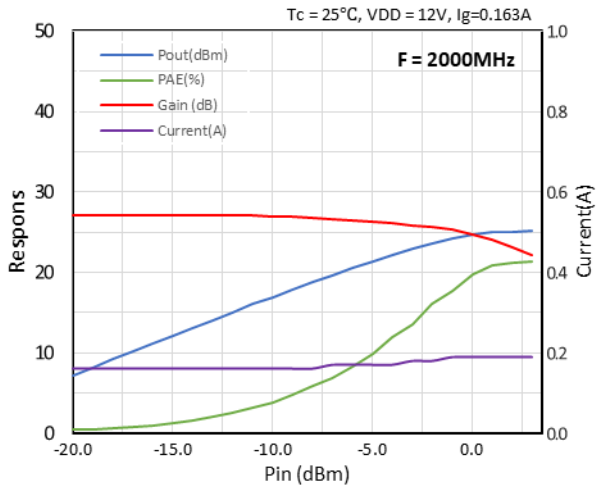
Out Power & Current vs. Input Power



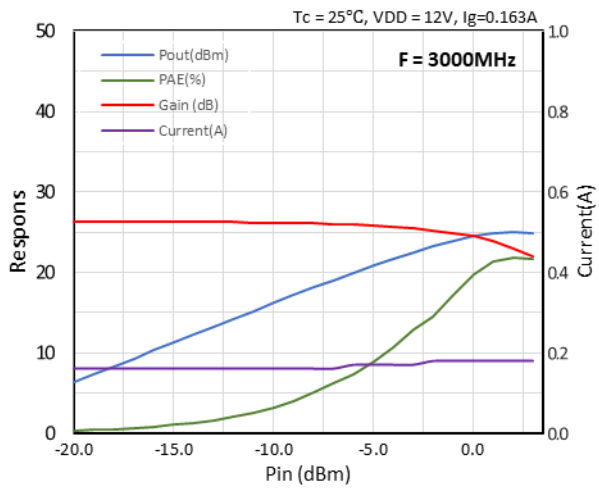
Out Power & Current vs. Input Power

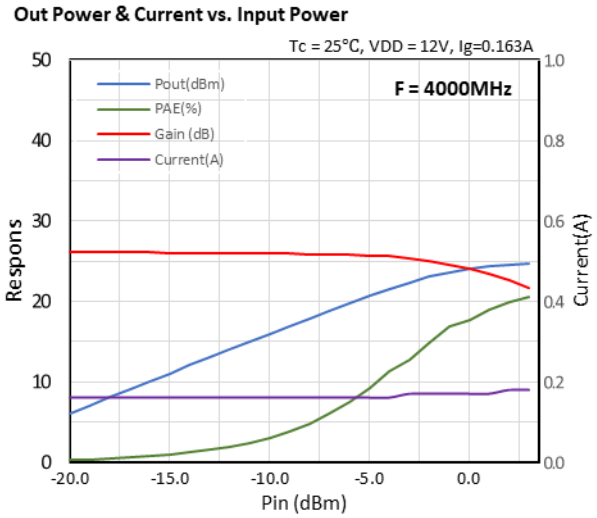


Out Power & Current vs. Input Power

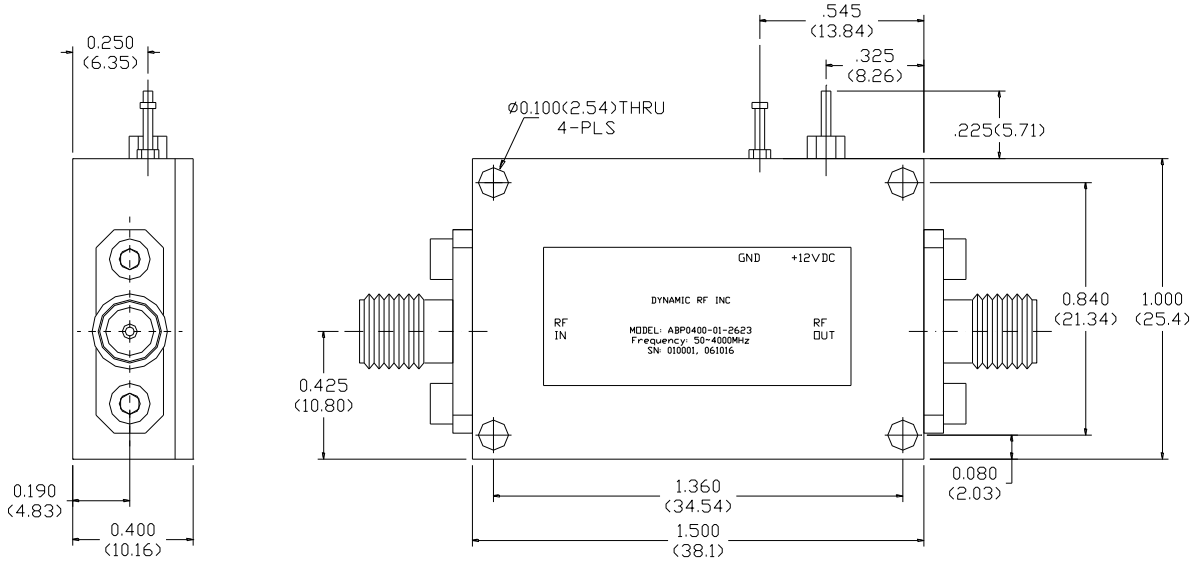


Out Power & Current vs. Input Power





Mechanical Structure:



Note: All units in inches (mm).

Housing Material and Surface Finish:

Body and cover material: aluminum
Surface finish: nickel plated
Connector material: Copper
Connector surface finish: gold plated

Absolute Maximum Ratings

DC Voltage	+13V
RF Input Power	+10dBm
Maximum Load VSWR	3:1
Storage Temperature	-55~+125°C
Operating Temperature	-40~+75°C

Revision History:

Revision	Date	Description	Comments
A00	06/10/2016	Initial Release	
A01	10/04/2023	Noise Figure Change	
A02	10/01/2025	Gain flatness, Reverse Isolation, and DC Supply Current	Transistor change

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**.