BROADBAND POWER AMPLIFIER
ABP0300-01-4040, Revision A00

Features

- Broad band operation from 30~3000MHz
- Low VSWR, unconditional stable
- Single DC power supply
- Operating temperature -40~+65°C, storage temperature -55~+85°C

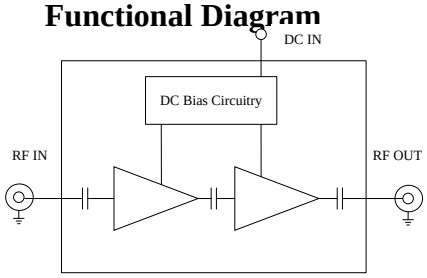
General Description

ABP0300-01-4040 is two-stage gallium nitride (GaN) broadband power amplifier module operating in the frequency 30MHz to 3000MHz. The amplifier provides 40dB of small signal gain, +40dBm of typical output power at 5dB gain compression. It offers excellent gain flatness and good VSWR at both input and output. The amplifier requires only a positive DC power supply and it is very convenient to use.

Typical Applications

- Defense systems
- Analog/digit lan-mobile-radio
- Public cellular network, GSM
- International mobile telecommunications (IMT)
- RFID

Functional Diagram



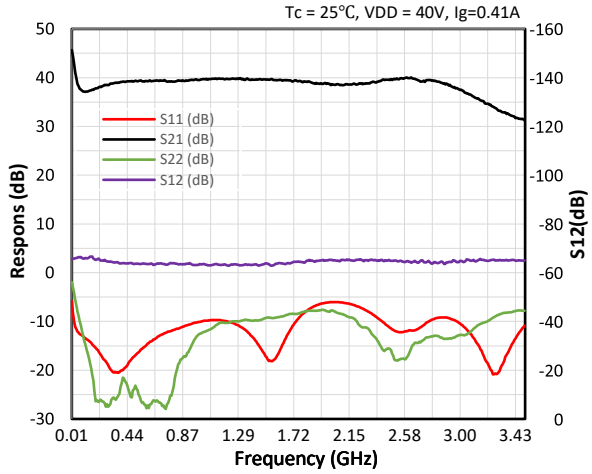
Electrical Specifications

Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	MHz	30		3000
P-sat Compression Point	dBm	+38.5	+40.0	
Output IP3(@Pout/tone=30dBm, 5MHz Tone Spacing)	dBm	+39.0	+43.0	
Nominal SS Gain @25°C	dB	36.0	40.0	44.0
Gain flatness over frequency	dB		+/-2.0	+/-2.5
Gain Variation over temperature	dB		+/-1.0	+/-1.5
Noise Figure 30MHz-250MHz 250MHz-3000MHz	dB		 5.5 4.5	 6.5 5.0
Input VSWR	-		2.0:1	2.7:1
Output VSWR 30MHz-50MHz 50MHz-3000MHz	-		 2.7:1 2.0:1	 4.5:1 2.7:1
Reverse Isolation	dB	45.0	60.0	
Spurious	dBc			-50.0
Operating Temperature	°C	-40.0		+65.0
Survival Temperature	°C	-55.0		+85.0
DC Voltage	V	+38.0	+40.0	+42.0
DC Current Quiescent (no RF signal at input) Supply Current at P-5dB RF Drive	A	 0.38 0.50	 0.41	 0.43 0.80
In/Out connectors	-	50 Ohm SMA female		
Outline Dimensions (not including SMA and feed pin)	Inches[3]	3.09×2.0×0.86		

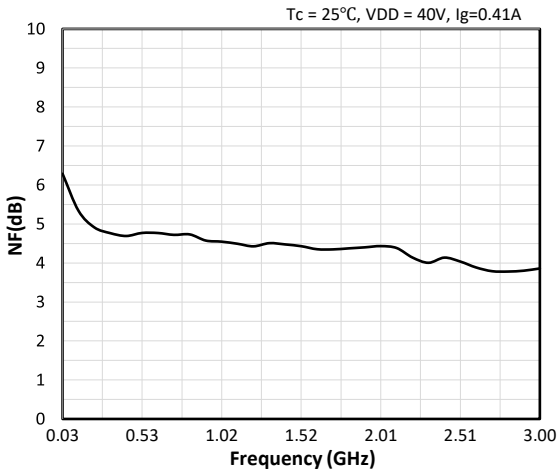
138 W Pomona Ave, Monrovia, CA 91016
Phone: (626) 305-6666, Fax: (626) 602-3101, sales@wenteq.com, www.wenteq.com

Typical Performance

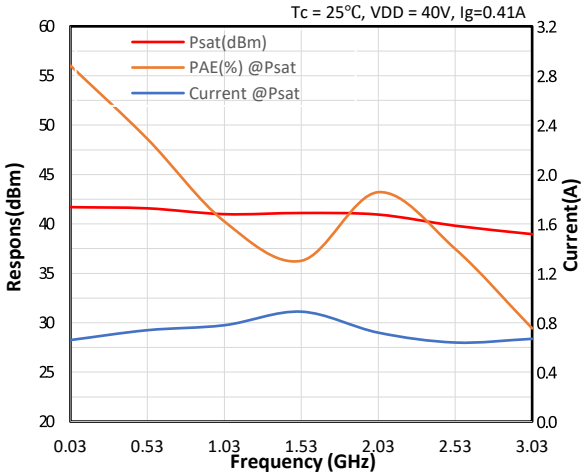
Gain & ReturnLoss



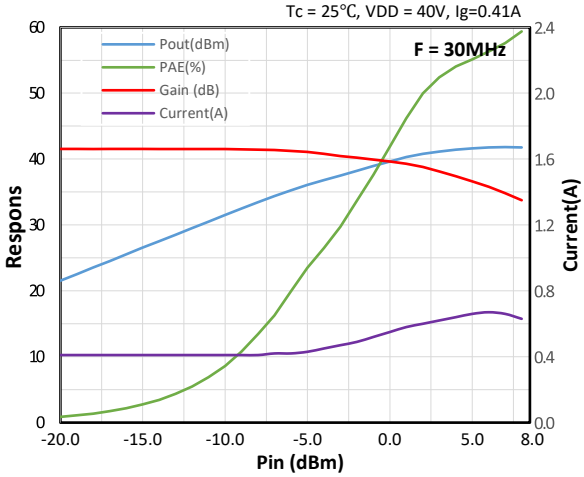
Noise Figure



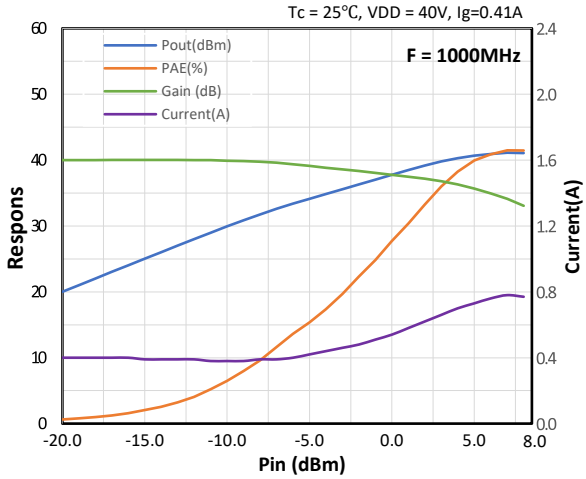
Psat, PAE & DC Current vs. Freq



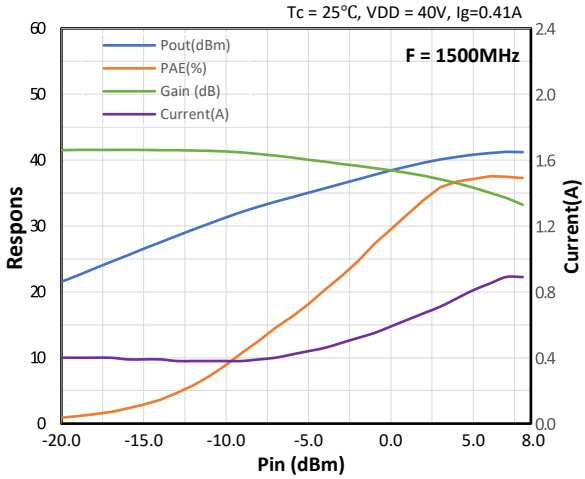
Out Power & DC Current vs. Input Power



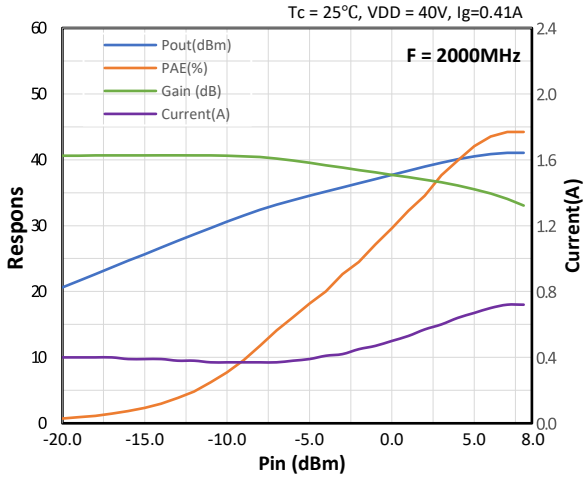
Out Power & DC Current vs. Input Power



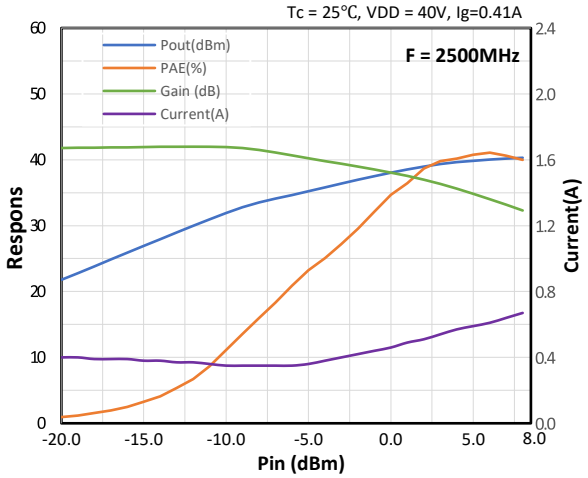
Out Power & DC Current vs. Input Power



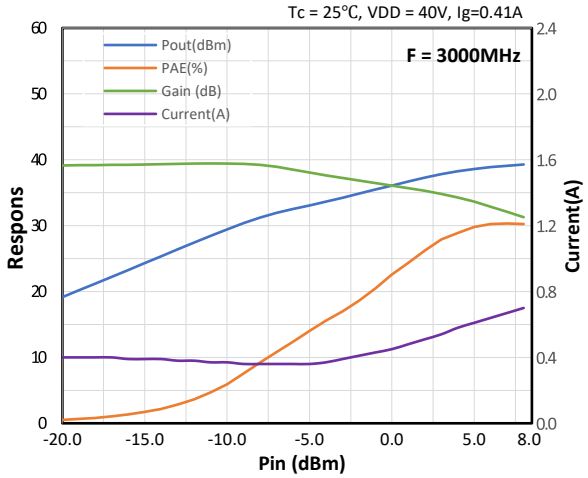
Out Power & DC Current vs. Input Power



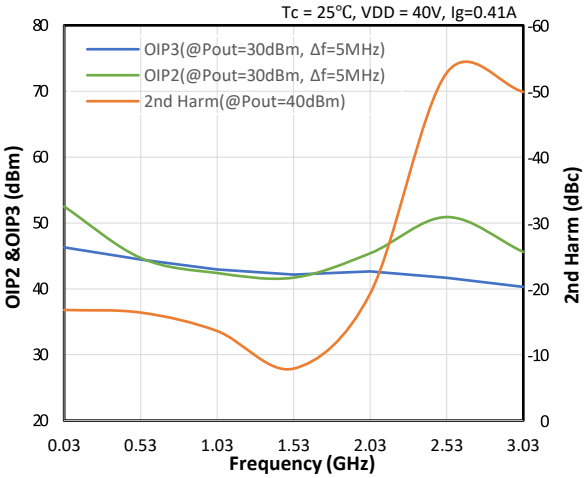
Out Power & DC Current vs. Input Power



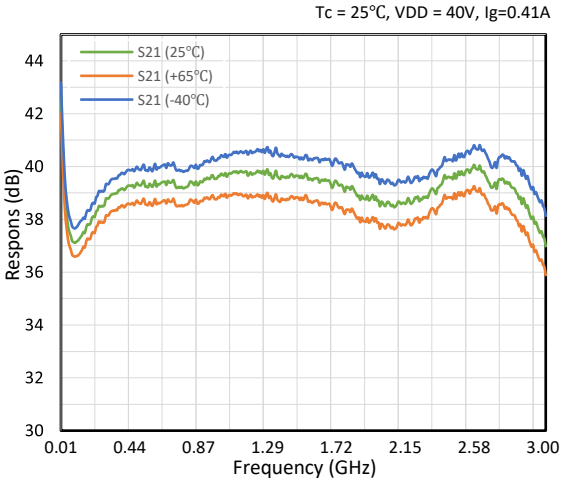
Out Power & DC Current vs. Input Power



Output IP2 & IP3 & 2nd Harm. vs. Freq.



Gain & ReturnLoss



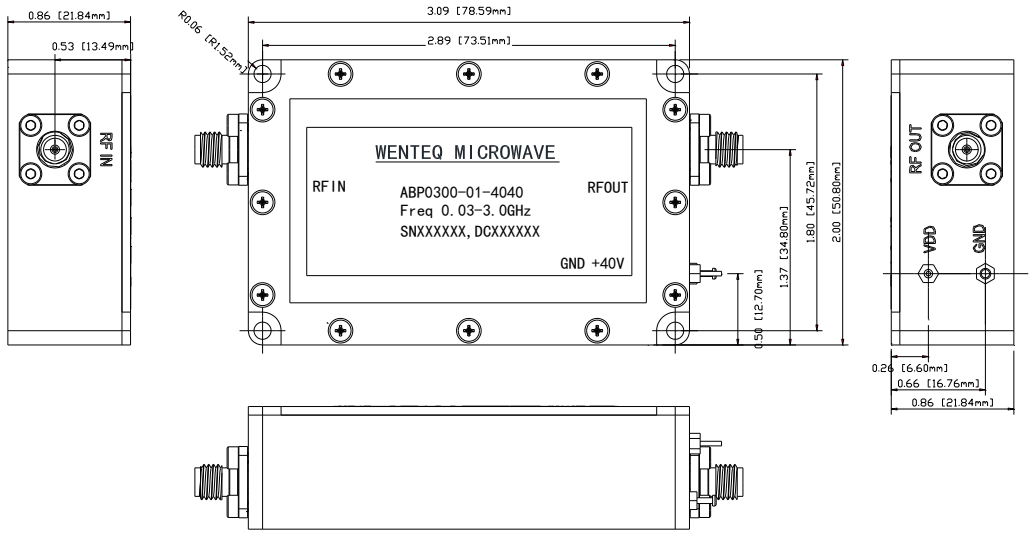
138 W Pomona Ave, Monrovia, CA 91016
Phone: (626) 305-6666, Fax: (626) 602-3101, sales@wenteq.com, www.wenteq.com

Absolute Maximum Ratings

DC Voltage	+43V
RF Input Power	+15dBm
Maximum Load VSWR	3:1
Storage Temperature	-55~+85°C
Operating Temperature	-45~+65°C

Note: External heat sink required for operation

Mechanical Structure



Note: All units in inches [mm].

Housing Material and Surface Finish

Body and cover material: aluminum
Surface finish: nickel plated
Connector material: Stairless Steel
Connector surface finish: Passivation

Revision History

Revision	Date	Description	Comments
A00	5/29/2026	Initial Release	

WARNING: This device is electrostatic sensitive, please observe precautions for safe handling of 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**.