

Features:

- Wide band operation over 300MHz to 18GHz frequency range
- 1 watt output P-1dB power
- Single positive DC power supply, unconditional stable
- SMA female connector I/O
- Operating temperature -40~+75°C, storage temperature -55~+85°C

General Description

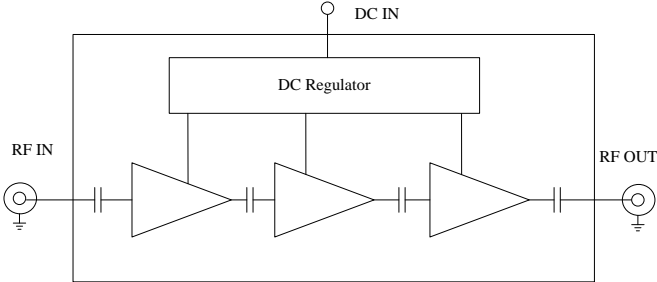
ABP1800-03-4030 is a three stage GaAs MMIC HEMT chip based broadband power amplifier module operating in the frequency from 0.3 to 18.0GHz. The amplifier provides 40dB of small signal gain and 30dBm typical output power at 1 dB gain compression point. The amplifier requires only a single positive DC power supply. Its built-in DC voltage regulator allows the amplifier to functional over a range of DC supply voltages without affecting the RF performances.

Electrical Specifications

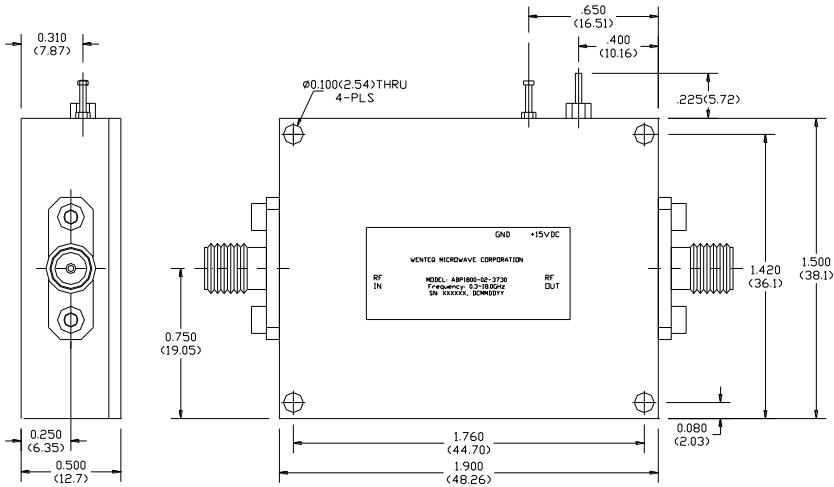
Parameters		Specifications		
		Minimum	Typical	Maximum
Frequency Range	GHz	0.3		18.0
Nominal Gain @25°C base plate temperature	dB	36.0	40.0	43.0
Noise Figure	dB			
0.3~2.5 GHz			3.5	5.0
2.5~14.0GHz			3.0	3.5
14.0~18.0GHz			3.5	4.0
P-1dB Compression Point	dBm	29.5	30.5	
Output IP3	dBm		+42.0	
Gain flatness	dB		+/-2.0	+/-2.5
Gain Variation over Temperature Range	dB		+/-2.0	
Reverse Isolation	dB		60.0	
Input VSWR	-		1.8:1	2.2:1
Output VSWR	-		1.8:1	3.0:1
Spurious	dBc			-60.0
Operating Temperature	°C	-40.0		+75.0
Survival Temperature	°C	-45.0		+125.0
DC Power Supply Voltage	V		+15.0	
DC Power Supply Current	mA	650.0	750.0	1100.0
RF In/Out connectors		SMA Female Connectors		
DC Input Connector		Feedthru Pin		
Outline dimension for ABP1800-02-4030 without heatsink	inches	1.90×1.50×0.50		
Outline dimension for ABP1800-02-4030-X with heatsink	inches	3.00×5.00×2.50		

Note: External heat sink required for normal operation!!!

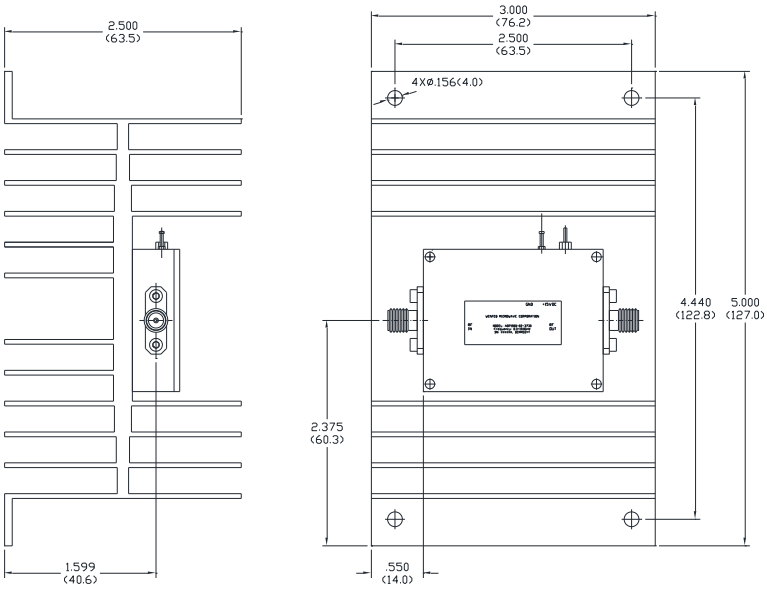
Functional Diagram



Mechanical Structure:



(a) ABP1800-02-4030 Amplifier without heatsink



(b) ABP1800-02-4030-X amplifier with heatsink

Note: All units are in inches(mm), and all tolerances are +/-0.005 inch unless otherwise specified



BROADBAND POWER AMPLIFIER ABP1800-03-4030 Revision A00

Housing Material and Surface Finish:

- Body and cover material: aluminum
- Surface finish: Gold plated
- Connector material: Stainless steel
- Connector surface finish: passivated
- Heatsink material: Aluminum, surface finish: Black anodized

Absolute Maximum Ratings

DC Voltage	+18V
RF Input Power	+15 dBm
Storage Temperature	-55~+125°C
Operating Temperature	-40~+75°C

Revision History:

Revision	Date	Description	Comments
A00	05/28/2026	Initial Release	



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.