

Features:

- Broad band, low noise, high gain
- Low VSWR, unconditional stable
- SMA female connector RF I/O
- Single DC power supply required
- Operating temperature -40~+85°C, storage temperature -55~+85°C

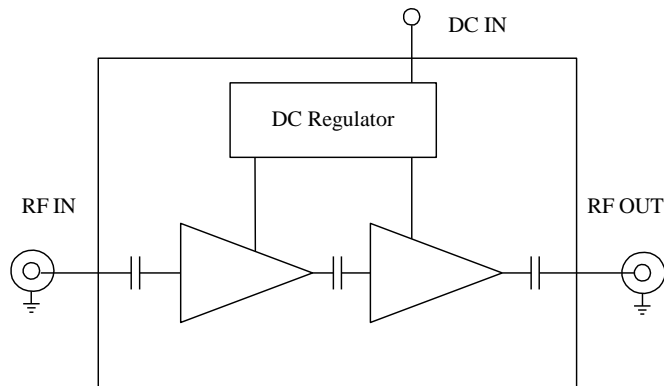
General Description

ABL2000-01-4022 is a two stage GaAs pHEMT MMIC based broadband low noise amplifier module operating in the frequency from 50MHz to 20.0GHz. The amplifier provides 40dB of small signal gain with 2.2dB noise figure. The amplifier offers excellent gain flatness, as well as good VSWR at both input and output. It 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.

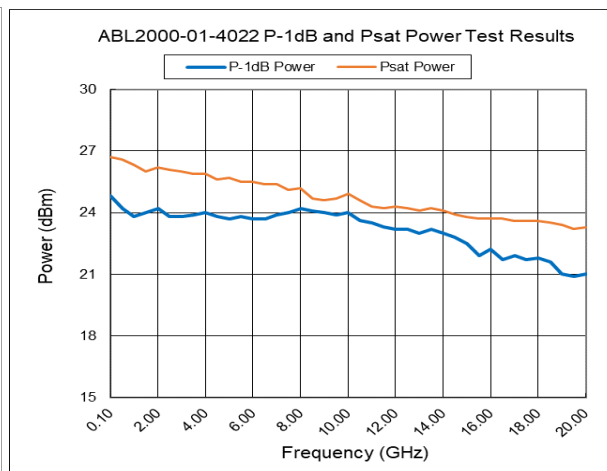
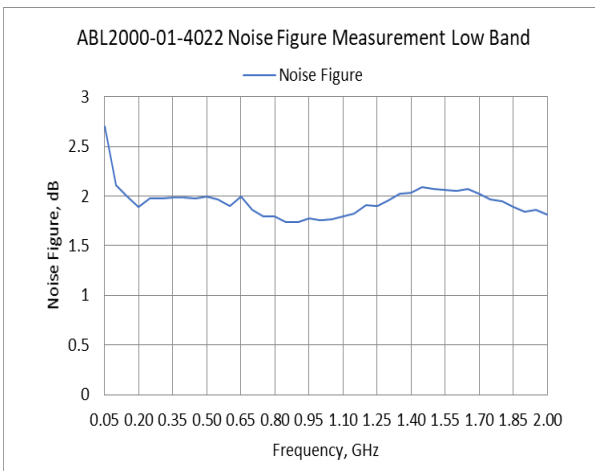
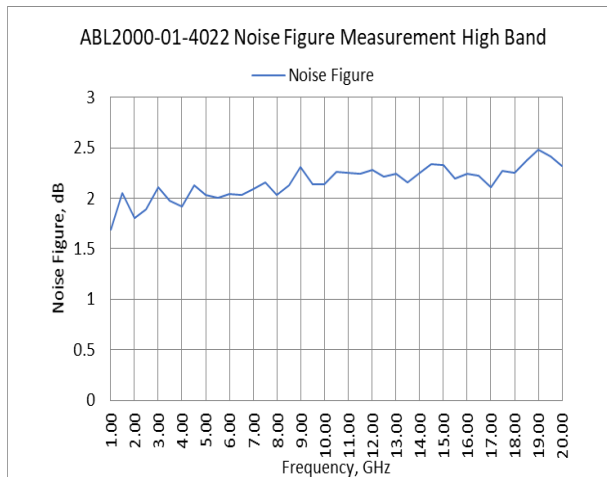
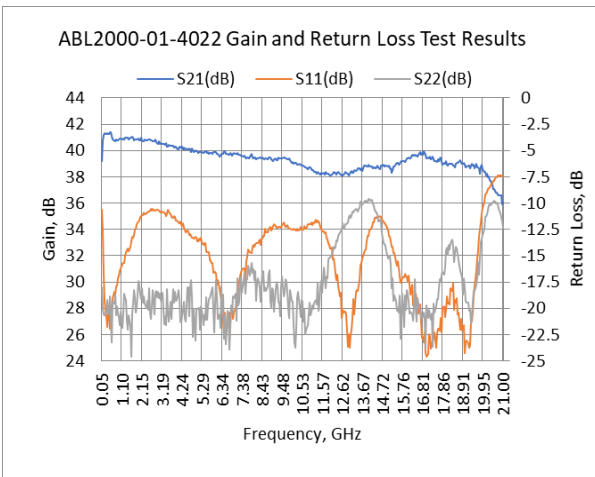
Electrical Specifications

Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	GHz	0.05		20.0
Nominal Gain @25°C base plate temperature	dB	36.0	40.0	43.0
Noise Figure	dB		2.2	3.0
P-1dB Compression Point 0.05~16.0GHz 16.0~20.0GHz	dBm	22.0 19.5	24.0 22.0	
Psat at Output	dBm	22.0	25.0	
Output IP3	dBm	26.0	33.0	
Gain flatness	dB		+/-2.0	+/-2.5
Gain Variation over Temp.	dB		+/-2.0	
Reverse Isolation	dB	40.0	50.0	
Input VSWR	-		1.7:1	2.3:1
Output VSWR	-		1.7:1	2.3:1
Spurious	dBc			-70.0
Operating Temperature	°C	-40.0		+75.0
Storage Temperature	°C	-45.0		+85.0
DC Power Supply Voltage	V	+10.0	+12.0	+15.0
DC Power Supply Current	mA	220.0	270.0	300.0
RF In/Out connectors		50 ohm SMA female		
DC Input Connector		Feedthru Pin		
Outline dimension for ABL2000-01-4022 without heatsink	inches	1.50×1.00×0.40		
Outline dimension for ABL2000-01-4022-X with heatsink	inches	1.50×1.617×1.09		

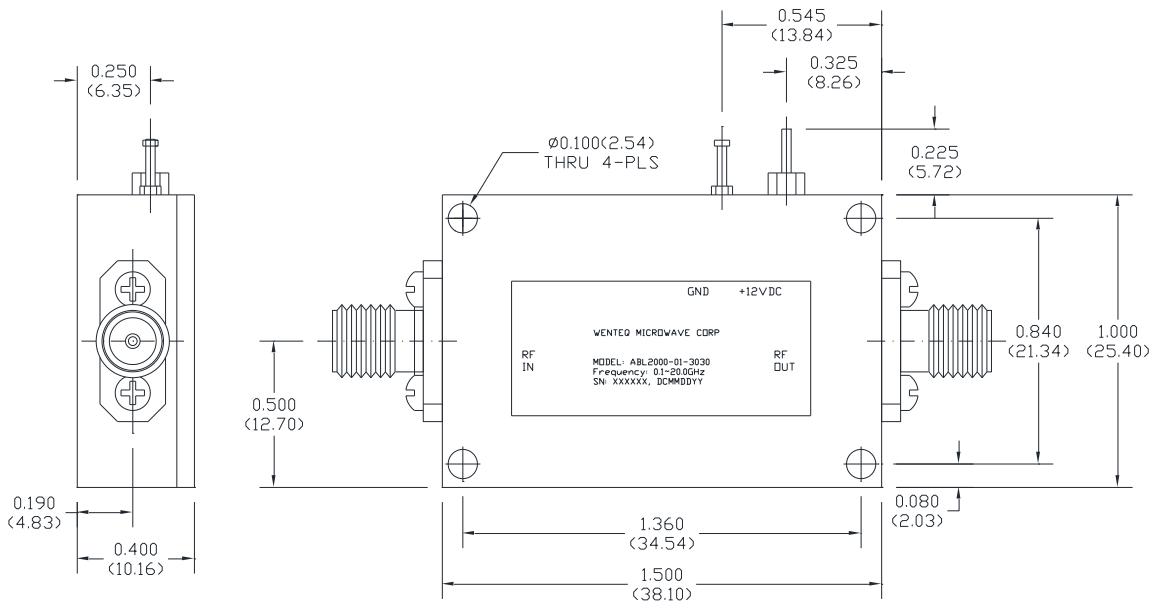
Functional Diagram



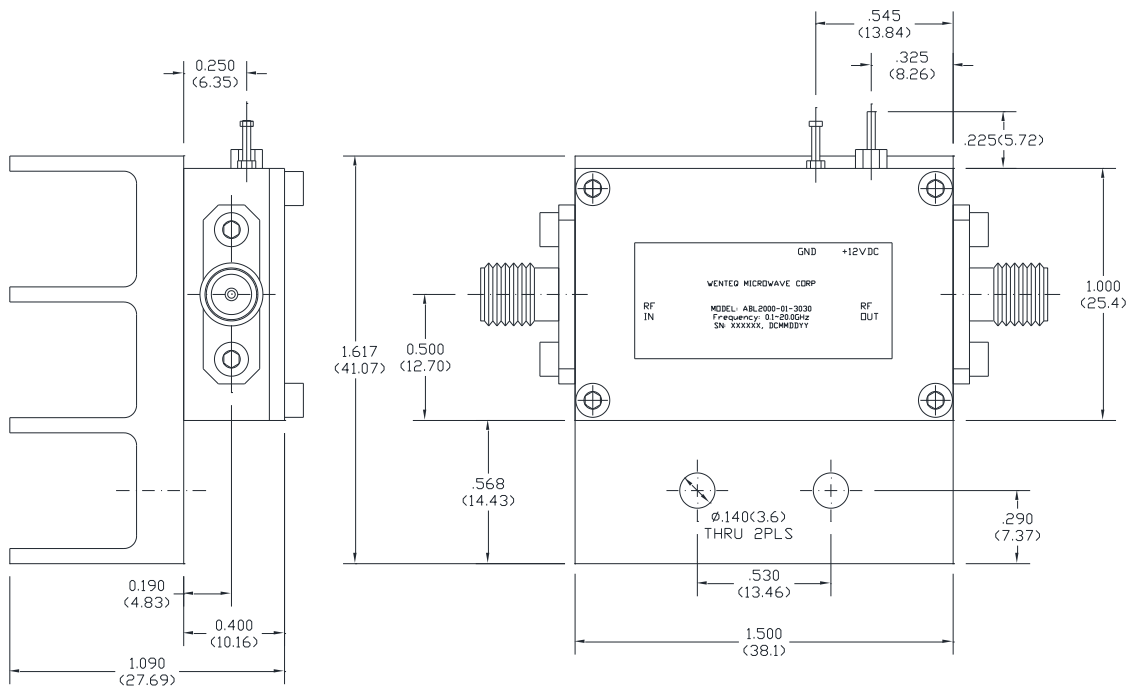
Test Results:



Mechanical Structure:



(a) ABL2000-01-4022 amplifier without heatsink



(a) ABL2000-01-4022-X amplifier with heatsink

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

Housing Material and Surface Finish:

Body and cover material: aluminum
Surface finish: nickel plated
Connector material: Stainless Steel
Connector surface finish: Passivated
Heatsink material: Aluminum
Heatsink surface finish: Black anodized

Absolute Maximum Ratings

DC Voltage	+18V
RF Input Power	+15 dBm
Storage Temperature	-45~+85°C
Operating Temperature	-40~+75°C



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.