BROADBAND LOW NOISE AMPLIFIER
ABL0100-01-4010, Revision A02

Features:

- Multi-octave bandwidth from 10~1000MHz
- Low noise figure, and high gain
- Good VSWR, unconditional stable
- SMA female connector I/O
- Single DC power supply, operating voltage from +10~+15V
- Operating temperature -40~+85°C, storage temperature -55~+125°C

General Description

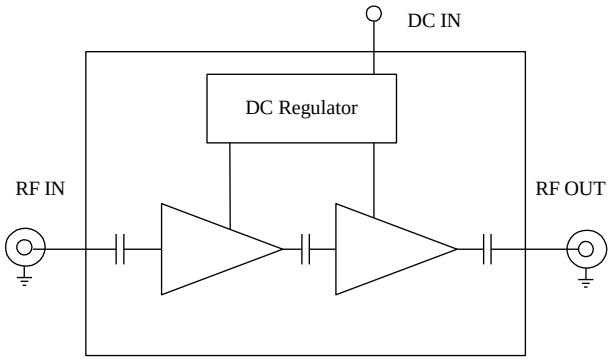
ABL0100-01-4010 is a two-stage enhancement mode pHEMT low noise transistor based broadband low noise amplifier module operating in the frequency from 10MHz to 1.0GHz. The amplifier provides 40dB of small signal gain with 1.0dB noise figure and excellent gain flatness, as well as good VSWR at both input and output. Its built-in DC voltage regulator allows the amplifier to functional from +10 to +15V DC supply voltages without affect RF performances.

Electrical Specifications

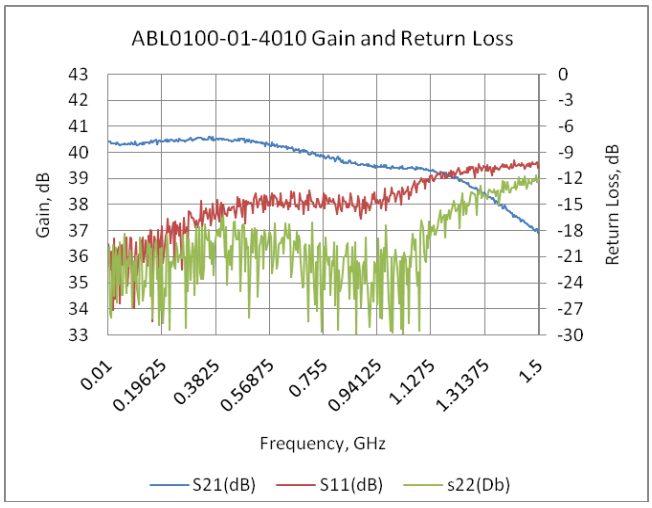
Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	MHz	10		1000
Noise Figure @25°C 10~50MHz 50~1000MHz	dB		 1.5 0.8	 3.0 1.0
P-1dB Compression Point	dBm	+16.0	+17.0	
Output IP3	dBm	+28.0	+31.5	
Nominal SS Gain @25°C	dB	37.0	40.0	42.0
Gain flatness	dB		+/-1.0	+/-1.25
Gain Variation	dB		+/-1.25	
Input VSWR	-		1.45:1	1.65:1
Output VSWR	-		1.30:1	1.50:1
Reverse Isolation	dB	50.0	55.0	
Spurious	dBc			-60.0
Operating Temperature	°C	-40`0		+85.0
Survival Temperature	°C	-55.0		+125.0
DC Voltage	V	+10.0	+12.0	+15.0
DC Supply Current	mA	100.0	110.0	125.0
In/Out connectors		SMA female		
Outline dimension for ABL0100-01-4010 without heatsink	inches	1.50×0.85×0.375		
Outline dimension for ABL0100-01-4010-X with heatsink	inches	1.50×1.617×1.069		

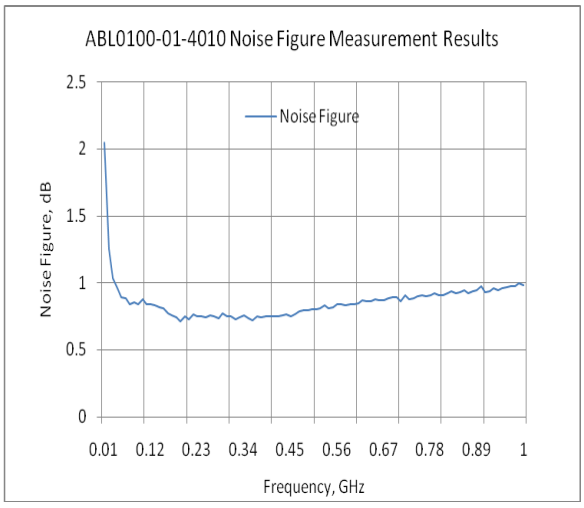
138 W Pomona Ave, Monrovia, CA 91016
Phone: (626) 305-6666, Fax: (626) 602-3101, sales@wenteq.com, www.wenteq.com

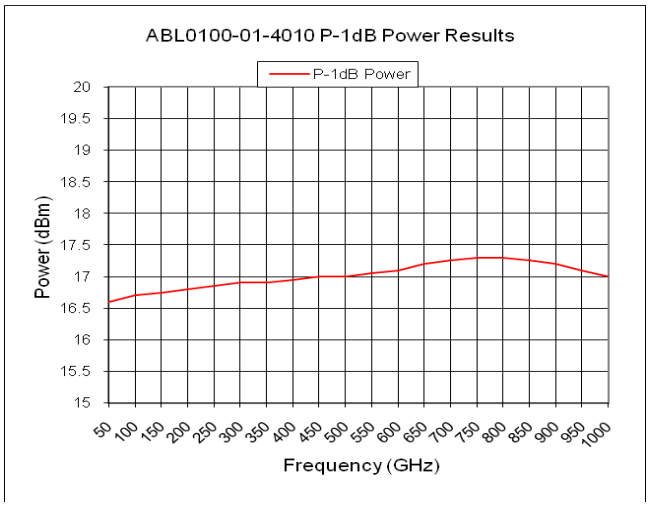
Functional Diagram

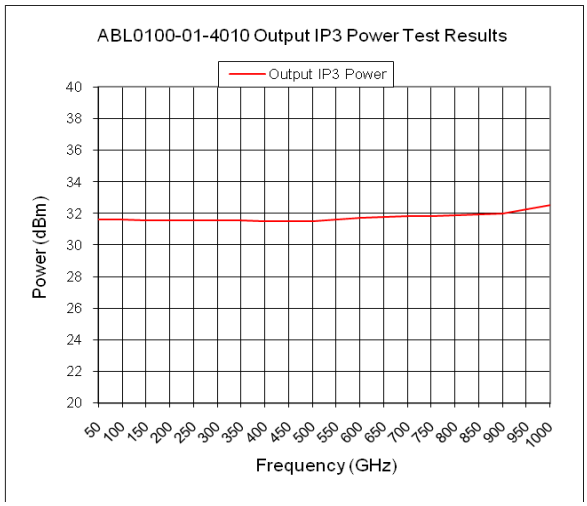


Typical Test Results

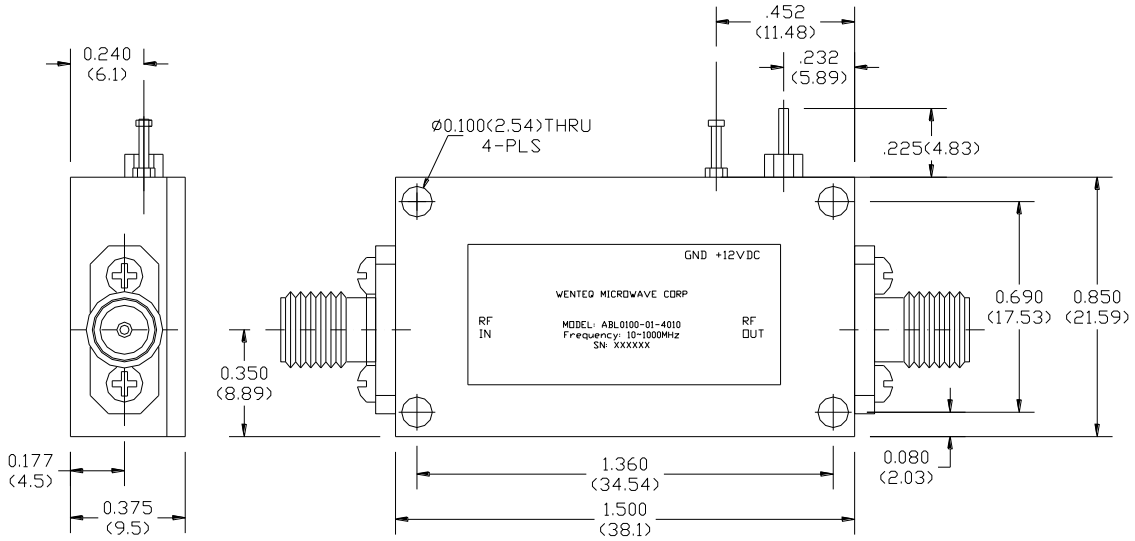




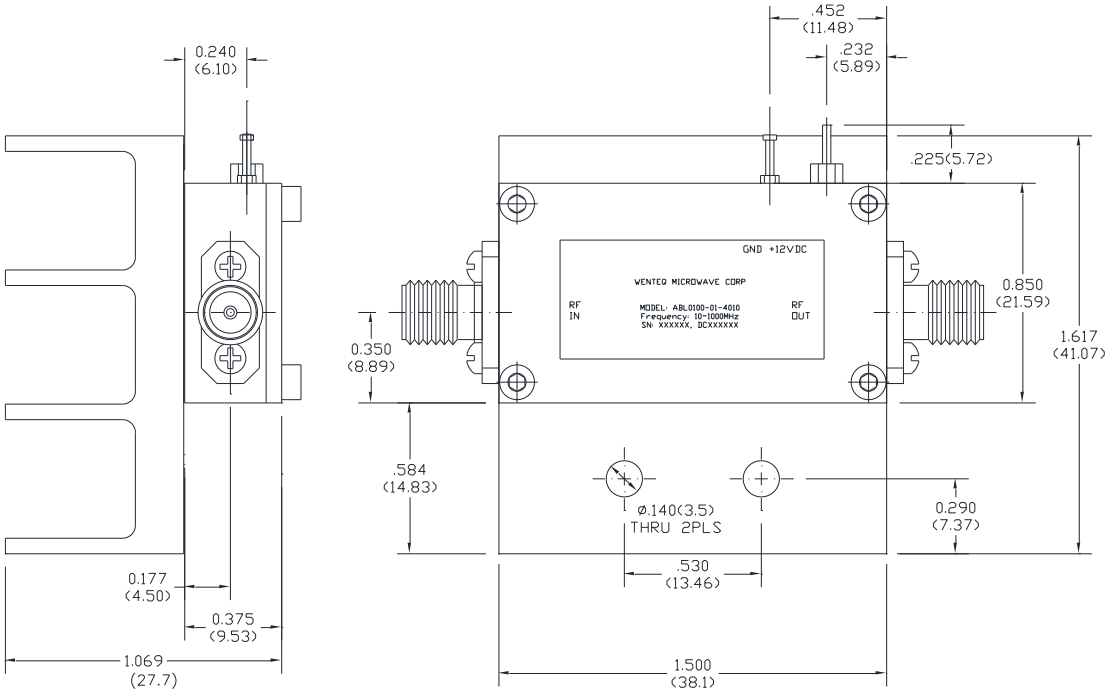




Mechanical Structure:



(a) ABL0100-01-4010 amplifier without heatsink



(b) ABL0100-01-4010-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: Copper
Connector surface finish: gold plated
Heatsink material: Aluminum
Heatsink surface finish: Black anodized

Absolute Maximum Ratings

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

Revision History:

Revision	Date	Description	Comments
A00	08/05/2008	Initial Release	
A01	02/27/2015	Added test plots	
A02	06/12/2015	Revised test plots	

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**.