

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



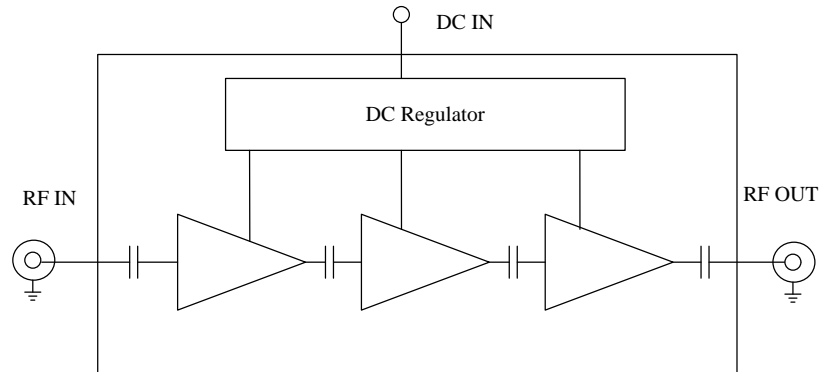
General Description

ABL1800-01-3825 is a three stage GaAs pHEMT MMIC based broadband low noise amplifier module operating in the frequency from 100MHz to 18.0GHz. The amplifier provides 38dB of small signal gain with 2.5dB typical noise figure at 10GHz. 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.

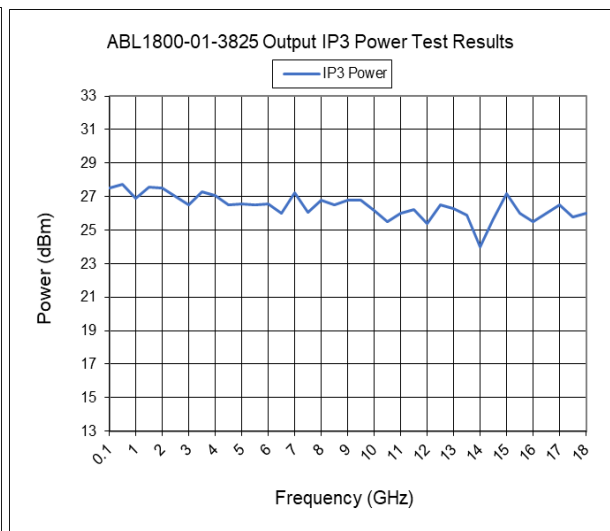
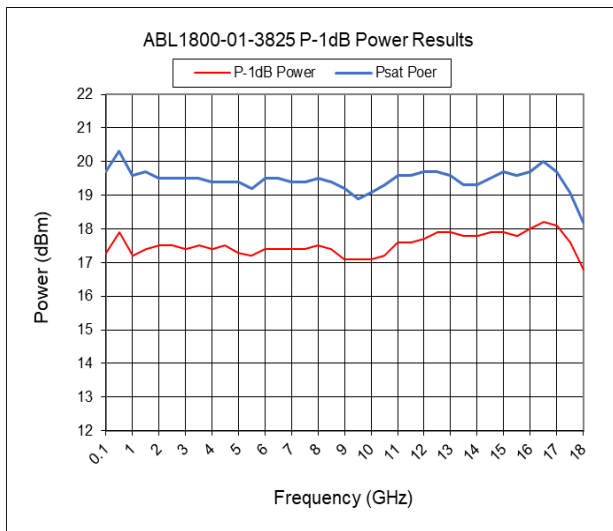
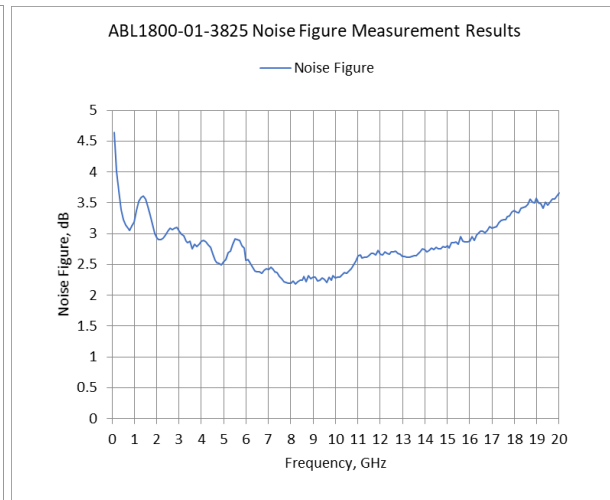
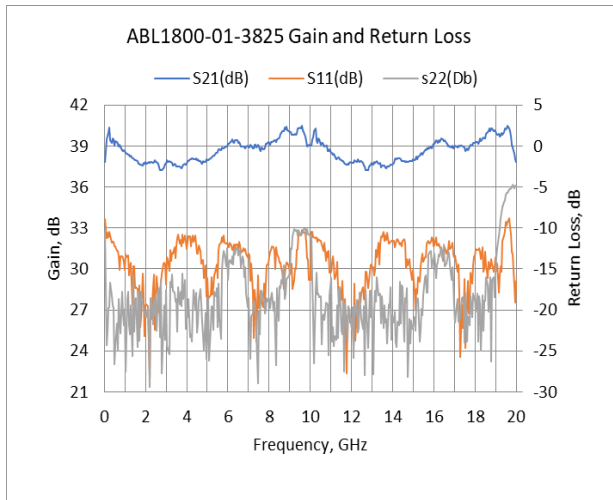
Electrical Specifications

Parameters		Specifications		
		Minimum	Typical	Maximum
Frequency Range	GHz	0.1		18.0
Nominal Gain @25°C base plate temperature	dB	35.0	38.0	41.0
Noise Figure	dB			
0.1~0.5GHz		4.0	6.5	
0.5~15.0GHz		2.5	3.5	
15.0~18.0GHz	3.5	4.5		
P-1dB Compression Point	dBm	+16.0	+17.5	
Psat at Output	dBm	+18.0	+19.5	
Output IP3	dB m	+22.0	+26.0	
Gain flatness	dB		+/-1.5	+/-2.0
Gain Variation over Temp.	dB		+/-2.5	
Reverse Isolation	dB	50.0		
Input VSWR	-		1.5:1	2.2:1
Output VSWR	-		1.8:1	2.5:1
Spurious	dBc			-70.0
Operating Temperature	°C	-40.0		+85.0
Survival Temperature	°C	-45.0		+125.0
DC Power Supply Voltage	V	+10.0	+12.0	+15.0
DC Power Supply Current	mA	170.0	190.0	250.0
RF In/Out connectors		50 ohm SMA female		
DC Input Connector		Feedthru Pin		
Size	inches	1.90×1.0×0.4		

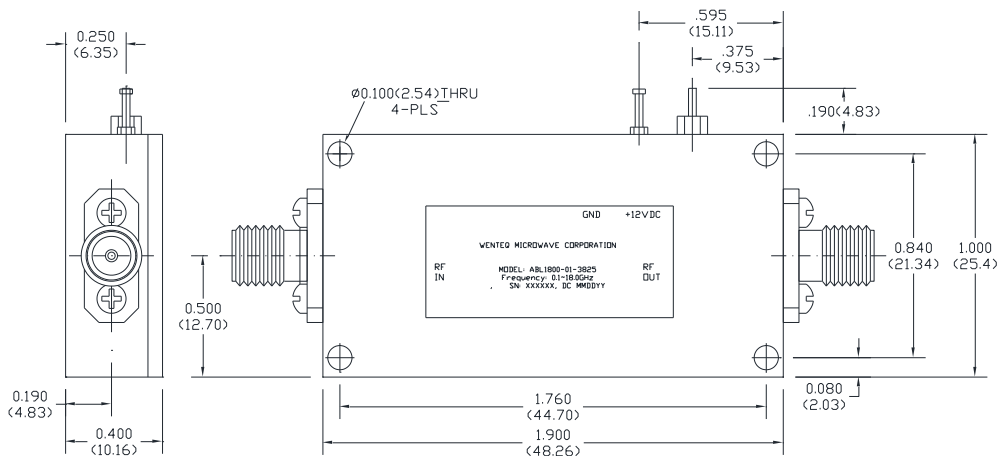
Functional Diagram



Test Results:



Mechanical Structure:



Note: All units in inches (mm).

Housing Material and Surface Finish:

- Body and cover material: aluminum
- Surface finish: nickel plated
- Connector material: Stainless Steel
- Connector surface finish: Passivated

Absolute Maximum Ratings

DC Voltage	+18V
RF Input Power	+15 dBm
Storage Temperature	-55~+125°C
Operating Temperature	-40~+85°C

Revision History:

Revision	Date	Description	Comments
A00	03/02/2021	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.