BROADBAND LOW NOISE AMPLIFIER
ABL0300-01-2516

Features:

- Broad band operation from 20 to 3000MHz
- Low noise figure, good VSWR, unconditional stable
- Excellent gain flatness
- SMA female connector I/O
- built-in voltage regulator, single DC power supply required
- Operating temperature -40~+85°C, storage temperature -55~+85°C

General Description

ABL0300-01-2516 is a two stage enhancement mode pHEMT low noise transistor based broadband low noise amplifier module operating in the frequency range from 20MHz to 3.0GHz. The amplifier provides 25dB of small signal gain with 1.6 dB typical noise figure and excellent gain flatness. The amplifier requires only a single positive DC power supply. Its built-in DC voltage regulator and reverse polarity protection circuitry allows the amplifier to function at different DC supply voltages without affecting the RF performances.

Electrical Specifications

Parameters	Units	SPECIFICATIONS		
		Minimum	Typical	Maximum
Frequency Range	MHz	20.0		3000.0
Noise Figure (from 50MHz and above) @25°C	dB		1.6	1.9
Small Signal Gain @25°C	dB	22.5	25.0	27.0
Gain flatness	dB		+/-0.75	+/-1.0
Gain Variation	dB		+/-1.25	
P-1dB Compression Point	dBm	+12.0	+13.5	
Output IP3	dBm	+20.0	+25.0	
Input VSWR	-		1.5:1	1.8:1
Output VSWR	-		1.5:1	1.8:1
Reverse Isolation	dB	40.0	50.0	
Spurious	dBc			-70.0
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	65.0	75.0	100.0
In/Out connectors	-	50 ohm SMA female		
Size	inches	1.5×0.85×0.375		

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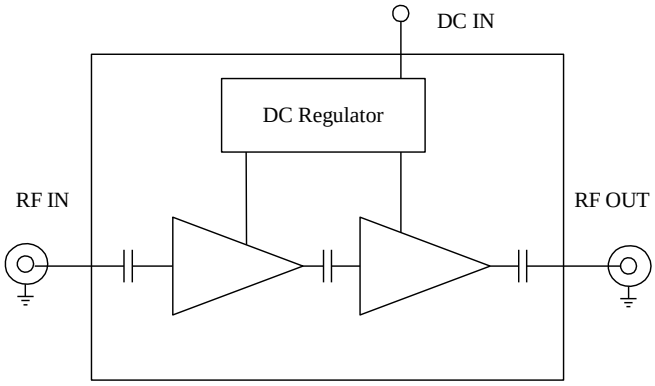
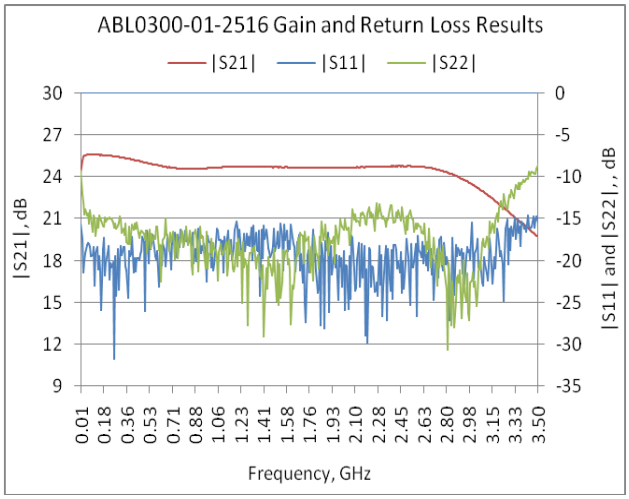
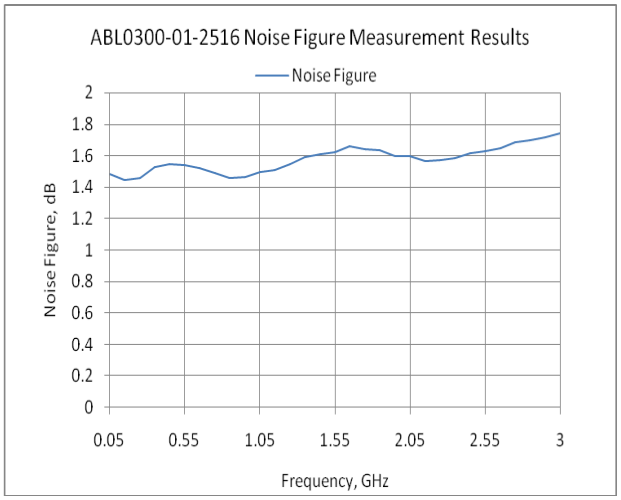
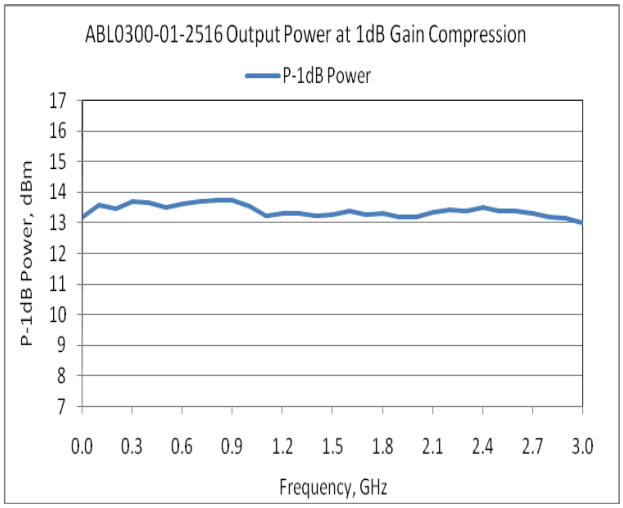
Functional Diagram

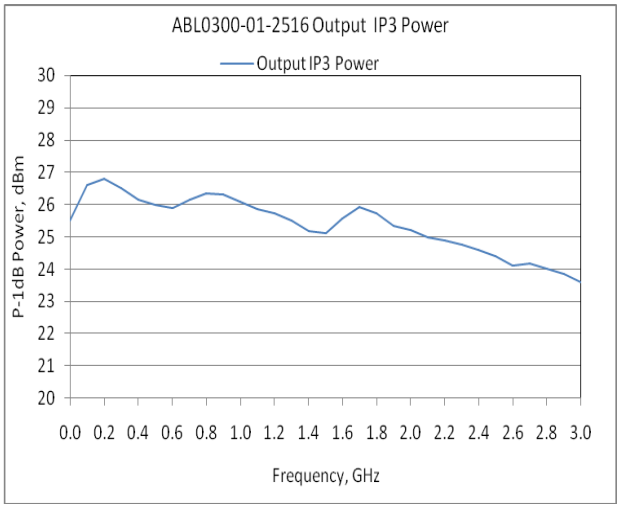


Typical Test Results









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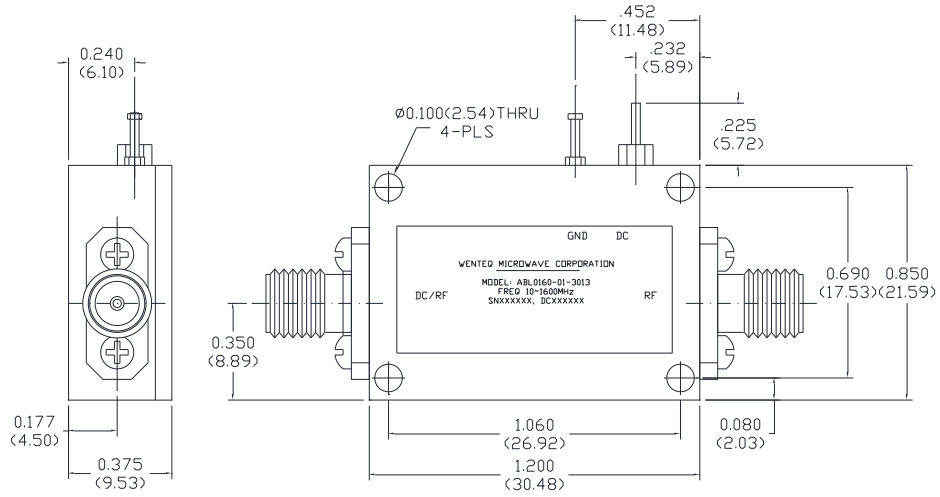
Mechanical Structure:



Note: All units in inches (mm).

Housing Material and Surface Finish:

Body and cover material: aluminum
Surface finish: nickel plated
Connector material: Copper
Connector surface finish: gold plated

Absolute Maximum Ratings

DC Voltage	+15V
RF Input Power	+10dBm
Storage Temperature	-55~+125°C
Operating Temperature	-40~+85°C

Revision History:

Revision	Date	Description	Comments
A00	03/16/2010	Initial Release	
A01	06/22/2016	Added picture, and plots	

Electrostatic sensitive device, please observe precautions for handling this amplifier.