BROADBAND LOW NOISE AMPLIFIER
ABL0300-01-3414

Features:

- Octave bandwidth, specification from 10~3000MHz, usable from 10~3500MHz
- Low noise figure, and high gain
- Low VSWR, unconditional stable
- SMA female connector I/O
- Single DC power supply, low power consumption, internal voltage regulator, operating voltage from +10~+15V
- Operating temperature -40~+85°C, storage temperature -55~+125°C

General Description

ABL0300-01-3414 is a three stage enhancement mode pHEMT low noise transistor based broadband low noise amplifier module operating in the frequency range from 10MHz to 3.0GHz. The amplifier provides 34dB of small signal gain with 1.4 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	10.0		3000.0
Noise Figure @25°C	dB		1.4	1.75
P-1dB Compression Point	dBm	+10.0	+11.0	
Output IP3	dBm	+23.0	+25.0	
Nominal SS Gain @25°C	dB	32.5	34.0	36.5
Gain flatness	dB		+/-0.75	+/-1.0
Gain Variation	dB		+/-1.25	
Input VSWR	-		1.4:1	1.6:1
Output VSWR	-		1.4:1	1.6:1
Reverse Isolation	dB	40.0	50.0	
Spurious	dBc			-70.0
Operating Temperature	°C	-40		+85
Survival Temperature	°C	-55		+125
DC Voltage	°C	+10.0	+12.0	+15.0
DC Supply Current	mA	85.0	95.0	105 mA
In/Out connectors	-	SMA female		
Size	inches	1.5×0.85×0.375		

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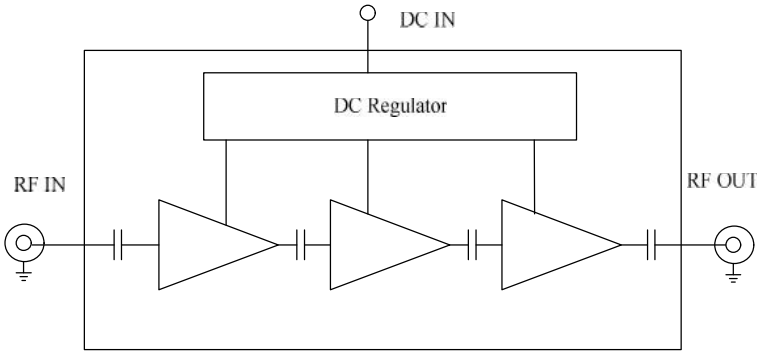
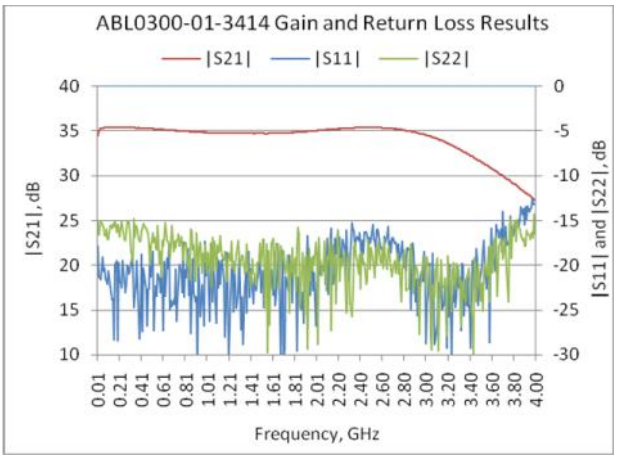
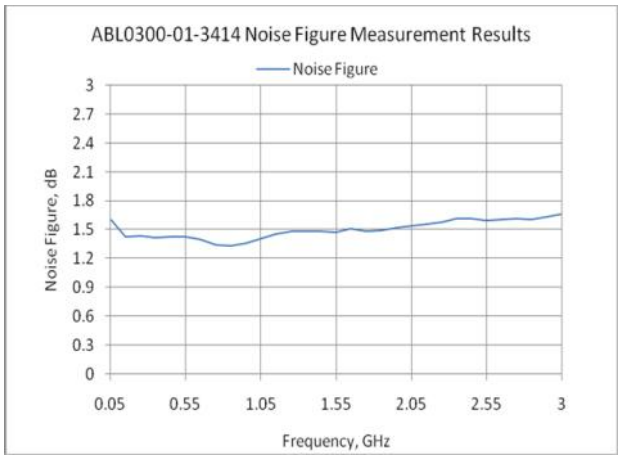
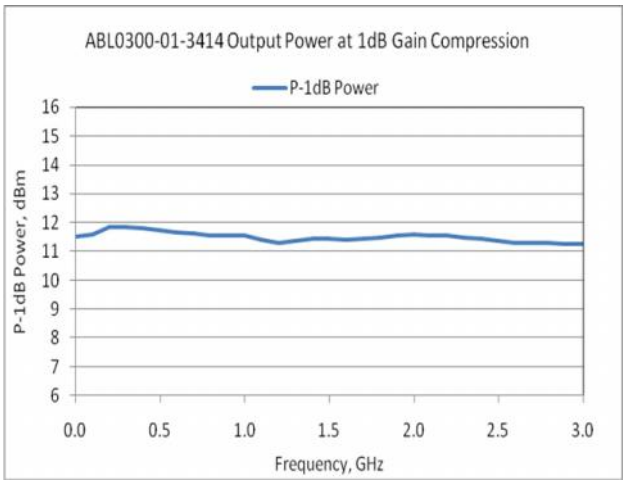
Functional Diagram

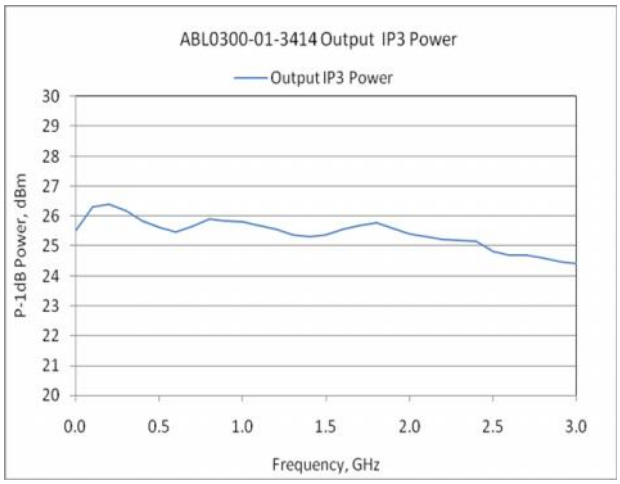


Typical Test Results:









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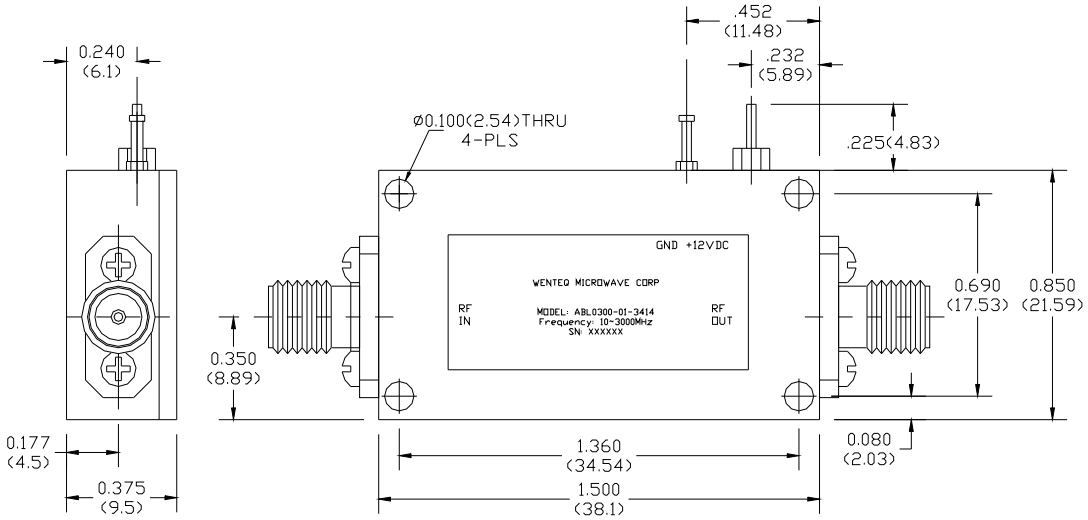
Mechanical Structure:



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	12/08/2008	Initial Release	

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