BROADBAND LOW NOISE AMPLIFIER
ABL0600-01-4345

Features:

- Broad bandwidth high gain operation from 10MHz to 6 GHz, usable to 7.5 GHz
- SMA female connector I/O
- Single DC power supply, internal voltage regulator, operating voltage from +9~+15V
- Operating temperature -40~+75°C, storage temperature -55~+125°C

General Description

ABL0600-01-4345 is a three stage InGaP/GaAs HBT based broadband low noise amplifier module operating in the frequency from 10MHz to 6.0 GHz. The amplifier provides 43dB of typical small signal gain with 3.0dB typical noise figure. The amplifier requires only a single DC power supply. Its built-in voltage regulator reverse polarity protection circuitry allows the amplifier being used at DC voltage as low as +9V to as high as +15V.

Electrical Specifications

Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	MHz	10.0		6000.0
Noise Figure (from 50MHz)	dB		3.0	4.5
Nominal SS Gain @25°C	dB	40.0	43.0	46.0
P-1dB Compression Point	dBm	+13.0	+15.0	
Output Saturated Power	dBm	+15.0	+16.5	
Output Saturated Power	dBm	+23.0	+24.5	
Gain flatness	dB		+/-1.25	+/-1.50
Gain Variation	dB		+/-1.5	
Input VSWR	-		1.7:1	2.0:1
Output VSWR	-		1.7:1	2.0:1
Reverse Isolation	dB	55.0		
Spurious	dBc			-60.0
Operating Temperature	°C	-40.0		+75.0
Survival Temperature	°C	-55.0		+125.0
DC Voltage	V	+9.0	+12.0	+15.0
DC Supply Current	mA	140.0	160.0	180.0
In/Out connectors		SMA female		
Size	inches	1.70x0.95x0.375		

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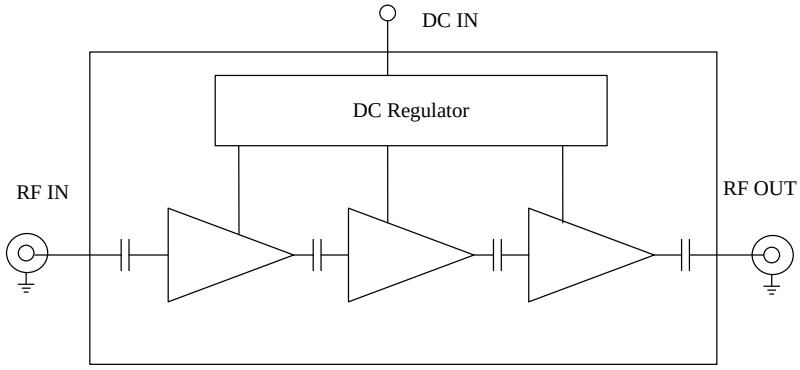
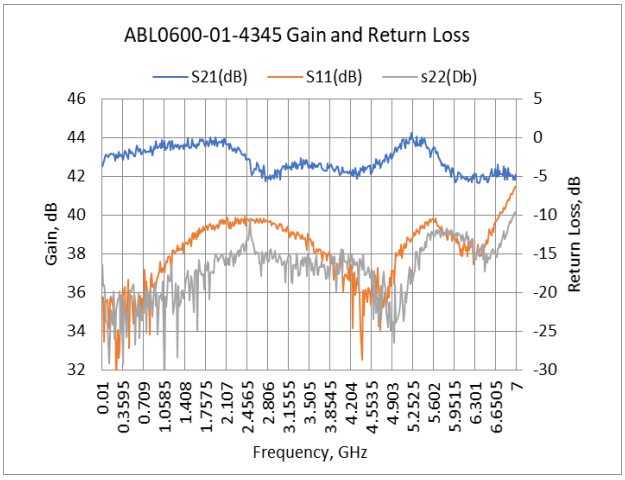
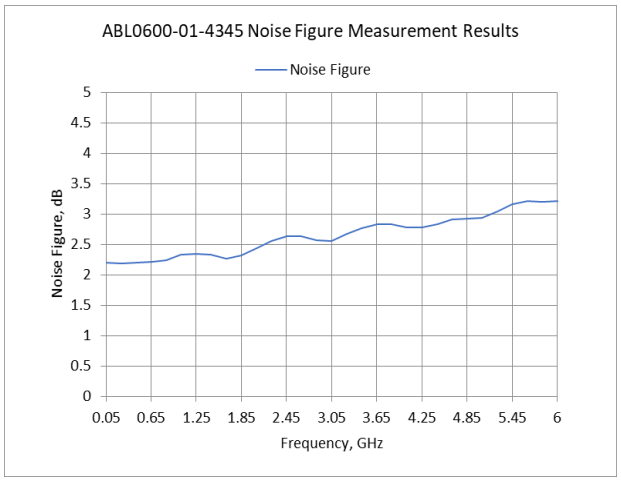
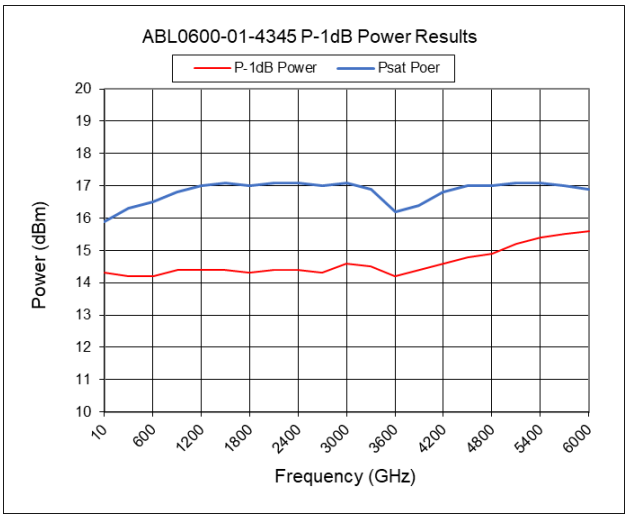
Functional Diagram

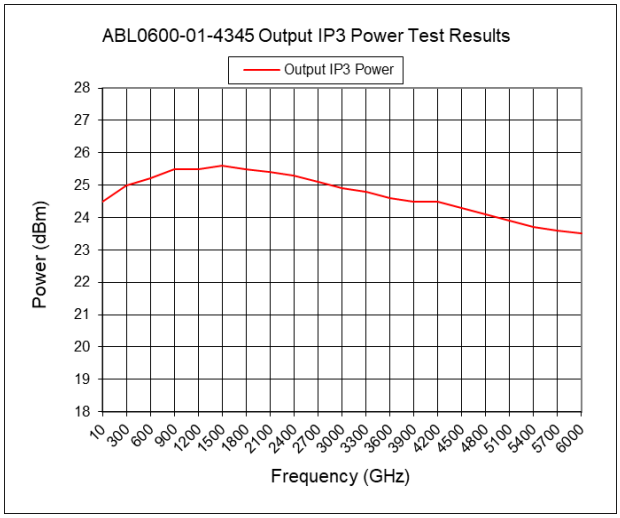


Typical Test Results









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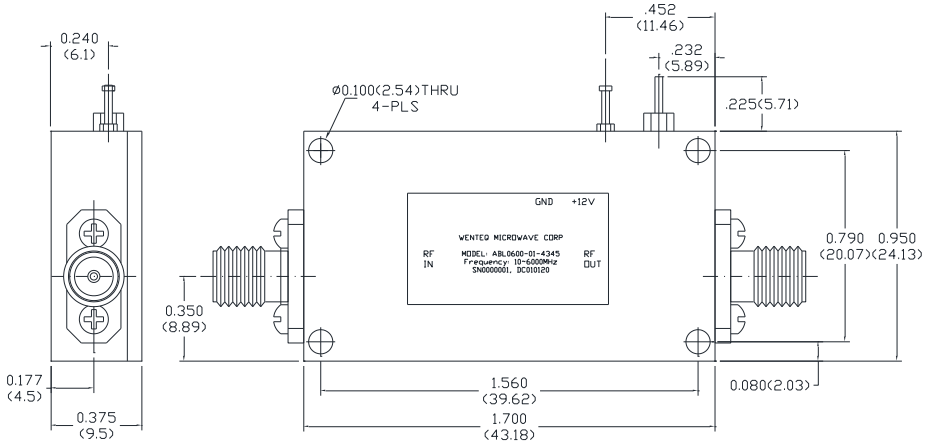
Mechanical Structure:



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	+10 dBm
Storage Temperature	-55~+125°C
Operating Temperature	-40~+75°C

Revision History:

Revision	Date	Description	Comments
A00	01/23/2007	Initial Release	
A01	01/15.2020	Design improved and test plots added	

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