ILA120160M

1200 - 1600 MHz LOW NOISE LIMITER AMPLIFIER

REV A
August 2016

Key Features

- 50 Ohm Impedance
- 1.2 ~ 1.6 GHz
- 0.7 dB Noise Figure
- 32 dB Gain
- 1.25:1 VSWR
- 30.0 dBm Max P_{IN}
- Precision Machined Housing
- Single DC Power Supply

Applications

- GPS,DCS
- RF Bench Tests
- Receiver Amplifiers
- Mobile Base Station Applications

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	-0.5,+32
RF Input CW Power	dBm	30
Storage Temperature	°C	-40 ~ +85
Operating Temperature	°C	-40 ~ +85

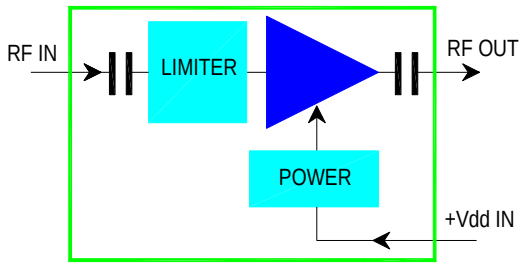
Operation of this device beyond any one of these parameters may cause permanent damage.

Specifications

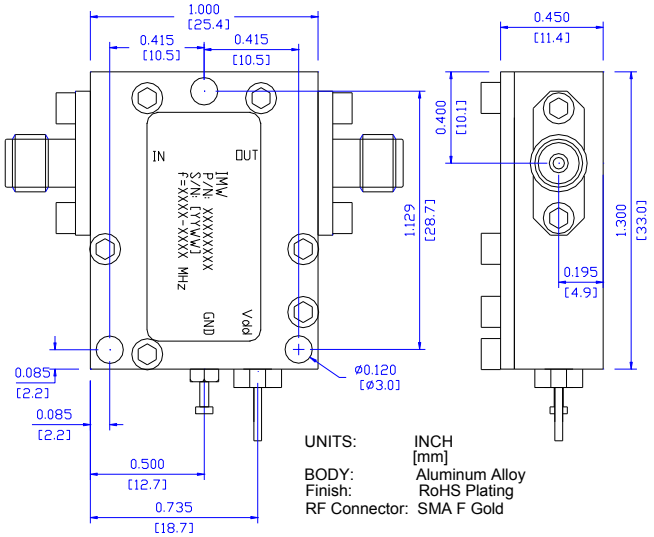
Summary of the key electrical specifications at 25°C

Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Frequency Range	BW	50 Ohm Impedance	1200		1600	MHz
2	Gain	S_{21}	1200 – 1600 MHz	30.5	32.5	34.5	dB
3	Gain Variation	ΔG	1200 – 1600 MHz		+/- 1.0		dB
4	VSWR	SWR_i	1200 – 1600 MHz, all RF ports		1.25:1	1.5:1	Ratio
5	Reverse Isolation	S_{12}	1200 – 1600 MHz		43		dB
6	Noise Figure	NF	1200 – 1600 MHz		0.7	0.9	dB
7	Output Power 1dB Compression Point	P_{1dB}	1200 – 1600 MHz	9	10		dBm
8	Output-Third-Order Interception Point	IP_3	Two-Tone, P_{out} = 0 dBm each, 1 MHz Separation		22		dBm
9	Current Consumption	I_{dd}	V_{dd} = +12.0 V		40		mA
10	Power Supply Operating Voltage	V_{dd}		+7	+12	+16	V
11	Operating Temperature	T_o		-40		+85	°C
12	Thermal Resistance	$R_{th,c}$	Junction to case			215	°C/W

Functional Block Diagram



Outline, IP-3 Housing



Ordering Information

Model Number	Connectors	
	IN	OUT
ILA120160M	SMA Female	SMA Female

Specifications and information are subject to change without notice.

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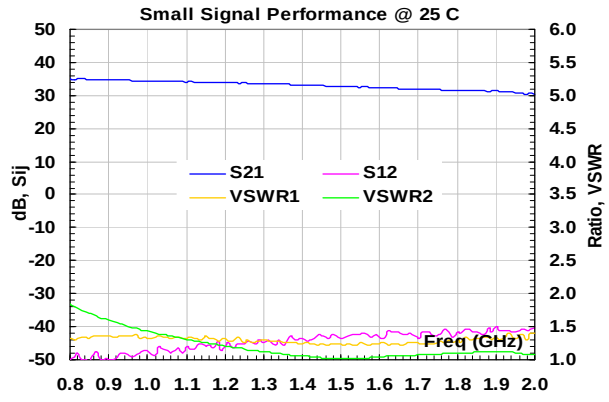
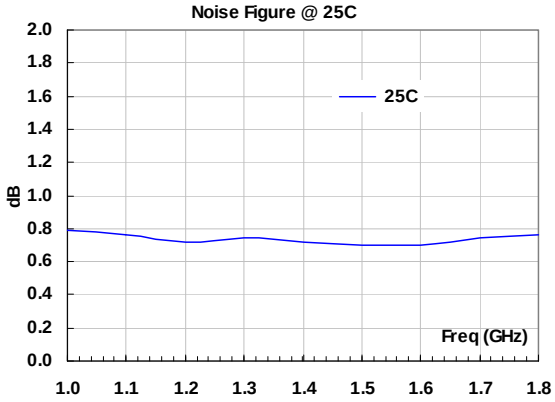
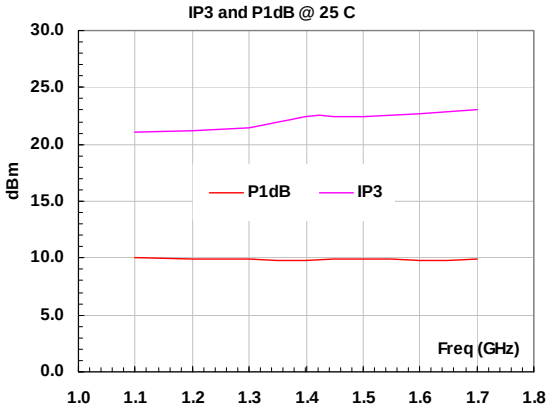
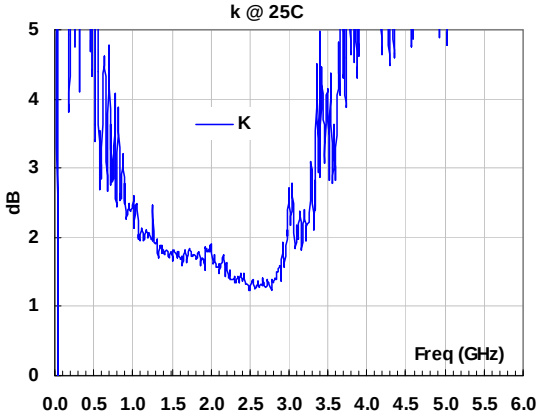
Typical Data









Application Notes:

A. SMA Torque Wrench Selection

Always use a torque wrench with 5 ~ 6 inch-lb coupling torque setting for mating the SMA cables to the amplifier. Never use torque more than 8 inch-lb wrench for tightening the mating cable to the connector. Otherwise, the permanent damage will occur to the SMA connectors of the amplifier. 8710-1582 (5 inch-lb) is one of the ideal torque wrench choice from Agilent Technology.

B. Mounting the Amplifier

Use three pieces of #2-56 with longer than 9/16" screws for mounting the amplifier on a metal-based chase. Flat and spring washers are needed to prevent the screw loosening during the shock and vibration. Always use the appropriate torque setting of the power screwdriver to mount them.

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