ILA002050A

20 - 500 MHz LOW NOISE AMPLIFIER

REV A
March 2014

Key Features

- 20 ~ 500 MHz, 50 Ohm Impedance
- 1.0 dB Noise Figure
- 20 dB Gain
- 1.5:1 VSWR
- 10 dBm P_{1dB}
- Precision Machined Housing
- Single DC Power Supply
- Meet MIL-STD-202g

Applications

- VHF & UHF
- Receiver Amplifiers
- RF Bench Tests
- Fixed Wireless Applications

Absolute Maximum Ratings

Parameters	Units	Ratings
DC Power Supply Voltage	V	-0.5,32
RF Input CW Power	dBm	10
Storage Temperature	°C	-40 ~ +85
Operating Temperature	°C	-40 ~ +85

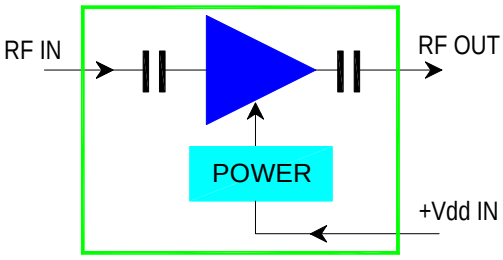
Operation of this device beyond any one of these parameters may cause permanent damage.

Specifications

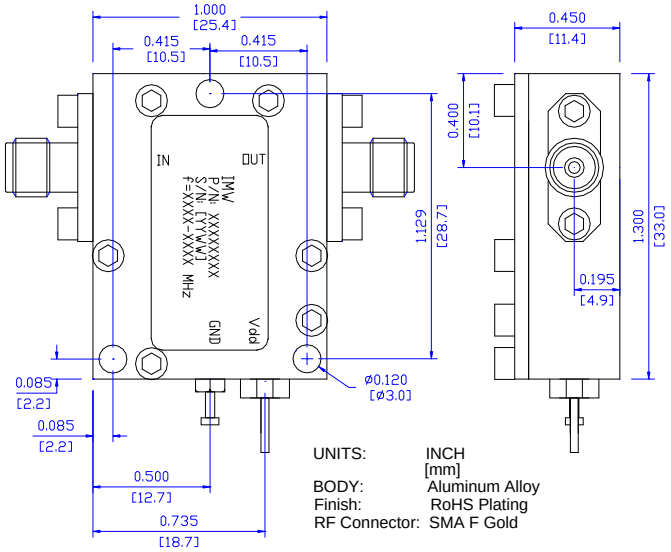
Summary of the key electrical specifications at 25°C

Index	Testing Item	Symbol	Test Constraints	Min	Nom	Max	Unit
1	Frequency Range	BW	50 Ohm Impedance	20		500	MHz
2	Gain	S_{21}	20 – 500 MHz	18	20	22	dB
3	Gain Variation	ΔG	20 – 500 MHz		+/- 1.0		dB
4	VSWR	SWR_i	20 – 500 MHz all RF ports		1.5:1	1.8:1	Ratio
5	Reverse Isolation	S_{12}	20 – 500 MHz	15	20		dB
6	Noise Figure	NF	20 – 500 MHz		1.0	1.4	dB
7	Output Power 1dB Compression Point	P_{1dB}	20 – 500 MHz	8	10		dBm
8	Output-Third-Order Interception Point	IP_3	Two-Tone, P_{out} = 0 dBm each, 1 MHz Separation	18	20		dBm
9	Current Consumption	I_{dd}	V_{dd} = +12.0 V		25		mA
10	Power Supply Operating Voltage	V_{dd}		+8	+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



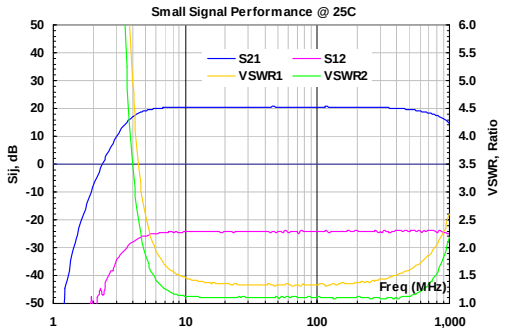
Ordering Information

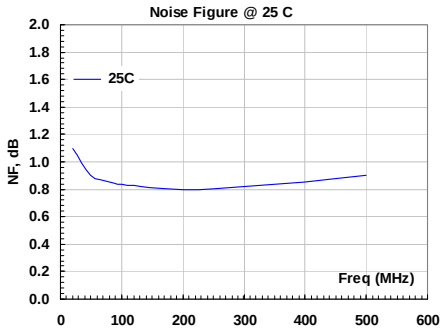
Model Number	Connectors	
	IN	OUT
ILA002050A	SMA Female	SMA Female

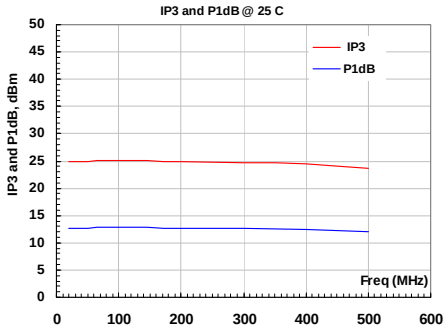
Specifications and information are subject to change without notice.

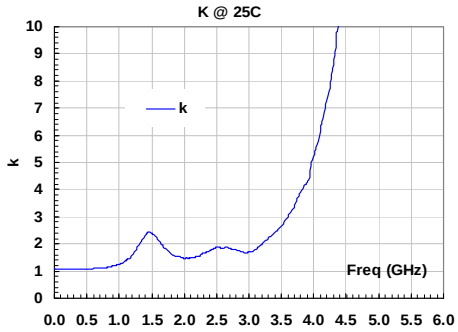
Infiniti Microwave Inc. Tel：+86 591 87812519 Fax: +86 591 87303613 E-mail: sales@infinitimw.com Website: www.infinitimw.com

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.

******