

MLN5060A

Oct 2013 preliminary

5.0 GHz -6.0 GHz

Low Noise Amplifier

Data Sheet

Description

MLN5060A is 5.0 GHz to 6.0 GHz wideband low noise amplifier with very flat gain. The input and output are matched to 50 Ω with DC blocking capacitors. No external matching components or DC bypassing capacitor are needed.

MLN5060A offers good output P1dB under low current consumption. The compact size and thin thickness design are suitable for portable device applications.

Features

- 250 mil x 350 mil surface mount package
- Excellent flatness in S21
- Fully matched input and output
- High linearity and P1dB
- Unconditionally stable across load condition
- Single 5V supply

Applications

- Mobile Infrastructures
- WiMAX
- Defense
- Security System
- Measurement
- Fixed Wireless

Specifications at 5.5 GHz 3V 41.4mA(typical)

- 0.92dB noise figure
- 11.4dBm output P1dB
- 23dB input return loss
- 23dB output return loss
- 22dB gain

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Electrical Specifications at room temperature

index	Testing Item	Symbol	Test Conditions	min	nom	max	unit
1	Gain	S21	5 GHz - 6 GHz	21	22		dB
2	Gain variation	ΔG	5 GHz - 6 GHz		+/-0.2	+/-0.6	dB
3	Input return loss	S11	5 GHz - 6 GHz	14	22		dB
4	Output return loss	S22	5 GHz - 6 GHz	14	22		dB
5	Reverse isolation	S12	5 GHz - 6 GHz	34			dB
6	Noise figure	NF	5 GHz - 6 GHz		0.93	1.06	dB
7	Output power 1dB compression point	OP1dB	5 GHz - 6 GHz	10	11.2		dBm
8	Current consumption	I _{dd}	25°C		41.4	43	mA
9	Power supply operating voltage	V _{dd}		2.7	3	3.3	V
10	Maximum average RF input power	P _{in,max}	DC to 6 GHz			10	dBm
11	Operating Temperature	T _o	Note 1	-40		85	°C
12	Storage temperature	T _o		-55		150	°C

Note 1 Optional for -55C operation is available

Ordering information

Model Number	MLN5060A
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Marking : MLN5060A

Solder reflow.

The high temperature solder SN100 was used for the inside assembly of ABT, MLN and MLT series modules. The melting temperature point of the high temperature solder SN100 is around 227 °C. Thus, melting temperature of the solder paste should be below 205 °C for assembling ABT, MLN and MLT series module on the test board. SN63 solder paste melting temperature point is around 183 °C and is suitable for the assembly purpose.



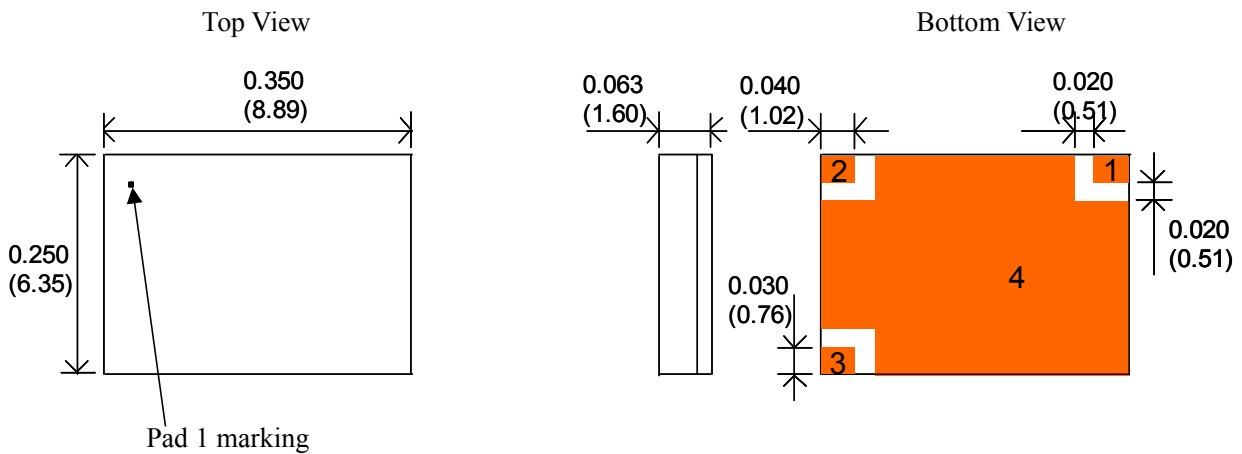
Caution! ESD sensitive device.

Following three suggestions that can avoid ESD effectively:

- Workers who directly handle ABT, MLN and MLT series or boards on which devices have been mounted can wear both wrist straps and ESD protective shoes.
- Gloves and finger sacks with ESD protection should be used. Especially, the finger sacks used when handling devices with bare hands must be conductive or electrostatic diffusive.
- Workers should make efforts to wear clothing made from materials that do not generate static electricity.

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Dimension is in inch(milimeter)

- Pad 1 : RF input
- Pad 2 : RF output
- Pad 3 : Vdd 5V input
- Pad 4 : Ground