

MLN2026A

Feb 2015 V2

2.0 GHz - 2.6 GHz

Low Noise Amplifier

Data Sheet

### Description

MLN2026A is 2.0 GHz to 2.6 GHz wideband low noise amplifier with very flat gain. The input and output are matched to 50  $\Omega$  with DC blocking capacitors. No external matching components or DC bypassing capacitor are needed.

MLN2026A 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 2.3 GHz 5V49mA(typical)

- 0.57dB noise figure
- 12.4dBm output P1dB
- 28dB input return loss
- 16dB output return loss
- 26.4dB gain

# MLN2026A

## Low Noise Amplifier

### Electrical Specifications at room temperature

index	Testing Item	Symbol	Test Conditions	min	nom	max	unit
1	Gain	S21	2.0 GHz-2.6 GHz	25	26.5		dB
2	Gain variation	$\Delta G$	2.0 GHz-2.6 GHz		+/-0.2	+/-0.6	dB
3	Input return loss	S11	2.0 GHz-2.6 GHz	14	24		dB
4	Output return loss	S22	2.0 GHz-2.6 GHz	14	16		dB
5	Reverse isolation	S12	2.0 GHz-2.6 GHz	38			dB
6	Noise figure	NF	2.0 GHz-2.6 GHz		0.57	0.72	dB
7	Output power 1dB compression point	OP1dB	2.0 GHz-2.6 GHz	11	12.45		dBm
8	Output-Third-Order interception point	OIP3	2.0 GHz-2.6 GHz	26	27		dBm
8	Current consumption	I <sub>dd</sub>	25°C		49	53	mA
9	Power supply operating voltage	V <sub>dd</sub>		4.7	5	5.3	V
10	Maximum average RF input power	P <sub>in,max</sub>	DC to 6 GHz			10	dBm
11	Operating Temperature	T <sub>o</sub>	Note 1	-40		85	°C
12	Storage temperature	T <sub>o</sub>		-55		150	°C

Note 1 Optional for -55°C operation is available

### Ordering information

Model Number	MLN2026A
--------------	----------

Marking : MLN2026A

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.

# MLN2026A

## Low Noise Amplifier

### Typical Data

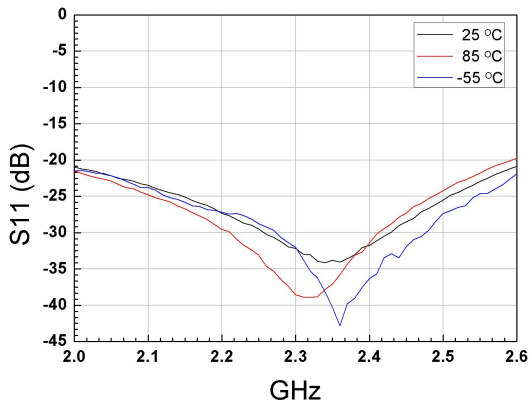


Figure.1 Input return loss vs Temperature

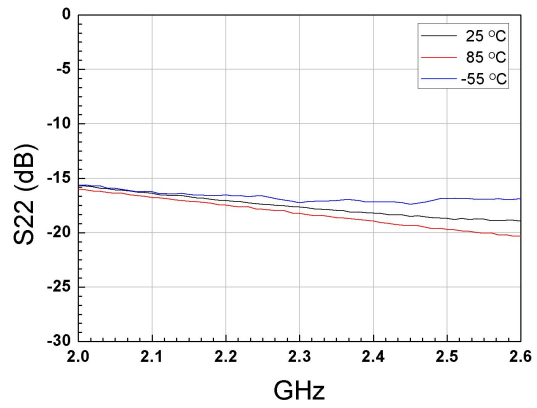


Figure.2 Output return loss vs Temperature

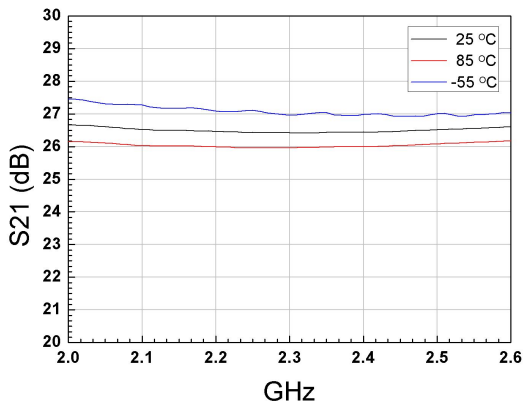


Figure.3 Gain vs Temperature

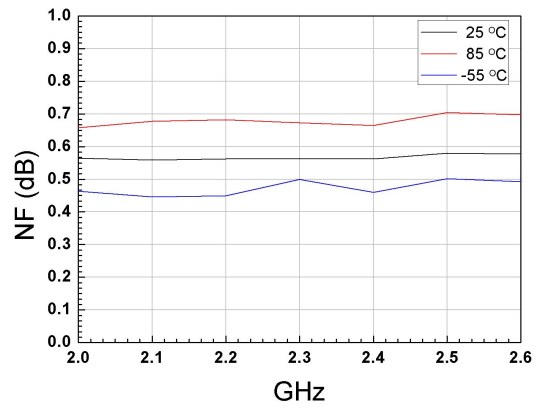


Figure.4 Noise figure vs Temperature

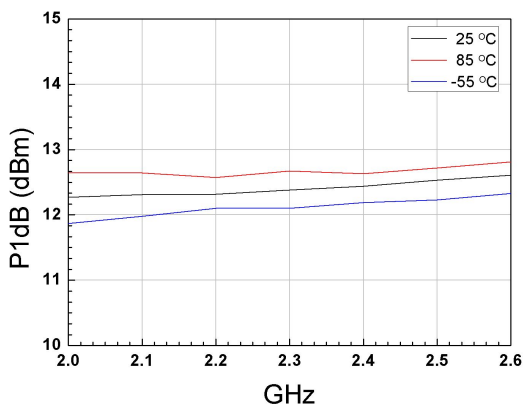


Figure.5 P1dB compression point vs Temperature

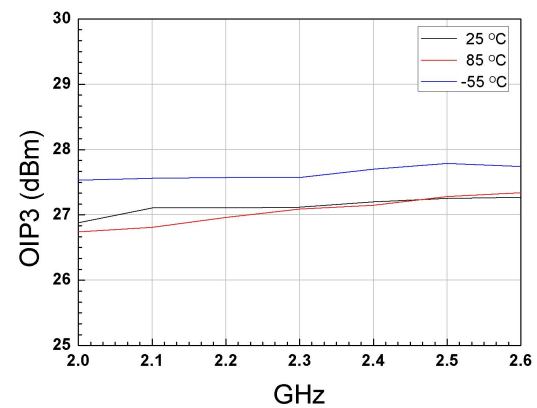
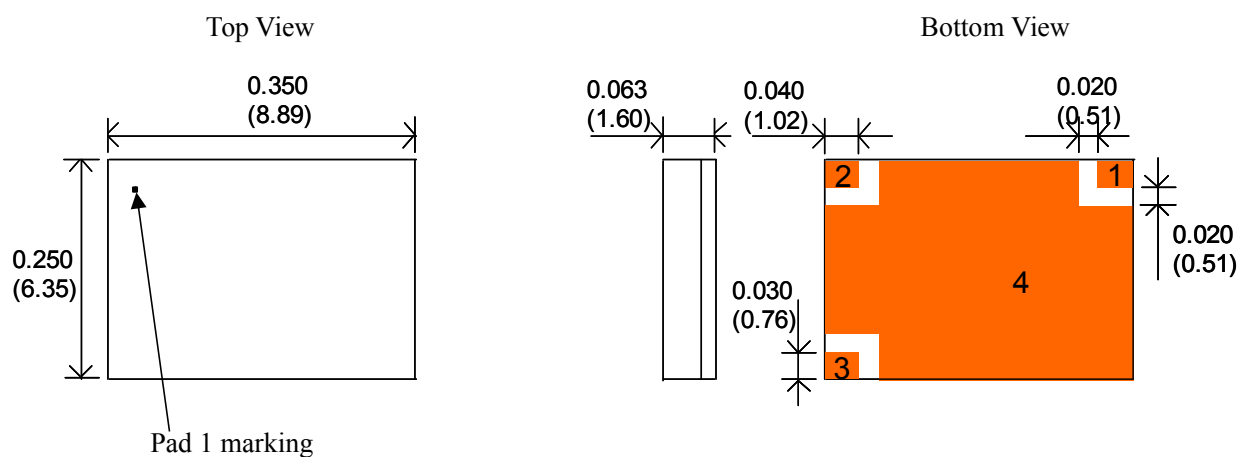


Figure.6 OIP3 vs Temperature

# MLN2026A

## Low Noise Amplifier

---



Dimension is in inch(milimeter)

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