



# SINGLE-SUPPLY OPERATIONAL AMPLIFIER

## GENERAL DESCRIPTION

The NJM2125 is a single-supply operational amplifier of ultra miniature surface mount package.

The features are single-supply operation, low operating voltage (minimum 2.7V) and ultra mini package (MTP5) are most suitable for portable items.

## PACKAGE OUTLINE

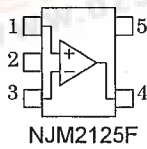


NJM2125F

## FEATURES

- Single-Supply Operation
- Low Operating Voltage (+2.7V~20V)
- Low Operating Current (1.0mA typ.)
- Slew Rate (1.2V/μs typ.)
- Mounted in Ultra Mini Package (MTP5:1/5 of DMP)
- Bipolar Technology

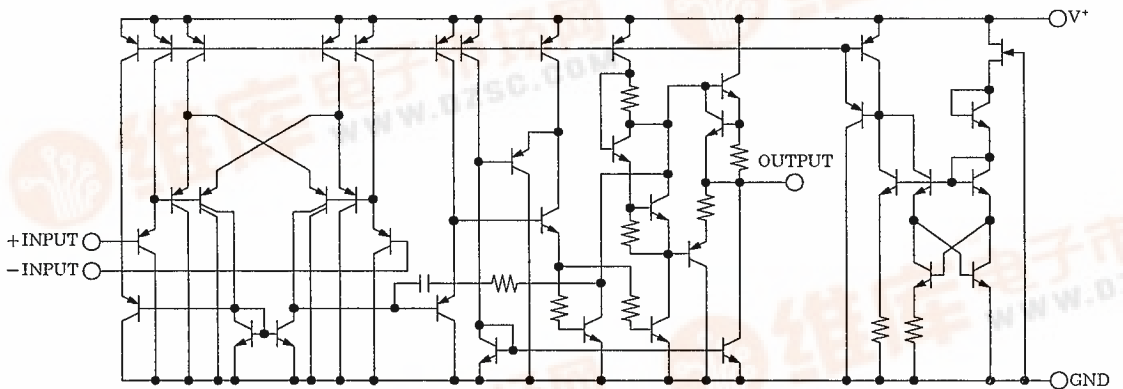
## PIN CONFIGURATION



## PIN FUNCTION

- 1.+INPUT
- 2.GND
- 3.-INPUT
- 4.OUTPUT
- 5.V<sup>+</sup>

## EQUIVALENT CIRCUIT



# NJM2125

## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V+	+20	V
Differential Input Voltage	V <sub>ID</sub>	+20	V
Input Voltage	V <sub>IC</sub>	-0.3~+20(note)	V
Power Dissipation	P <sub>D</sub>	200	mW
Operating Temperature Range	T <sub>opr</sub>	-40~85	°C
Storage Temperature Range	T <sub>stg</sub>	-40~125	°C

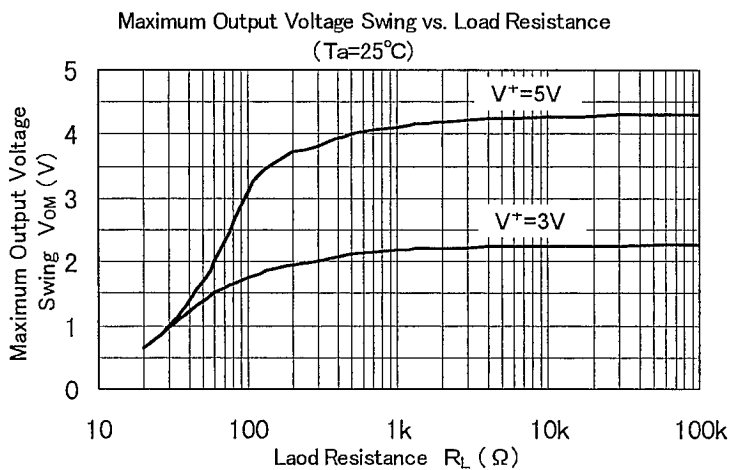
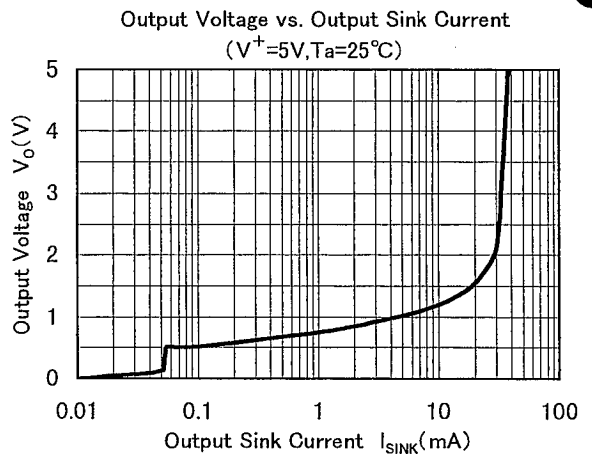
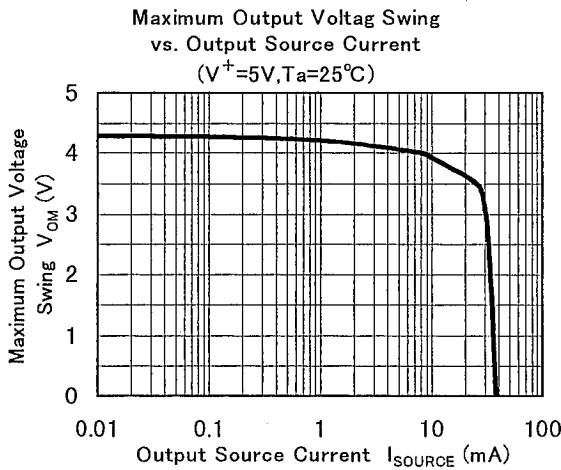
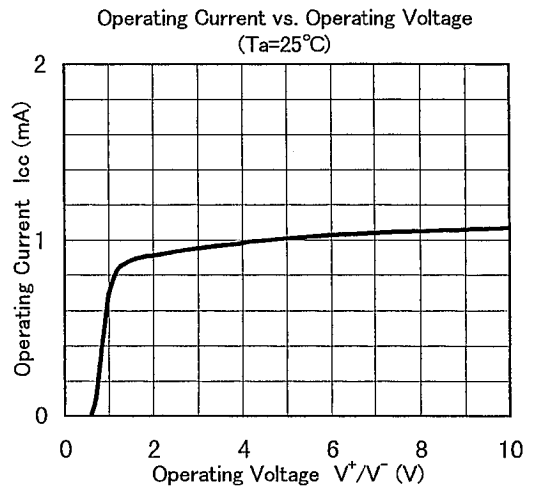
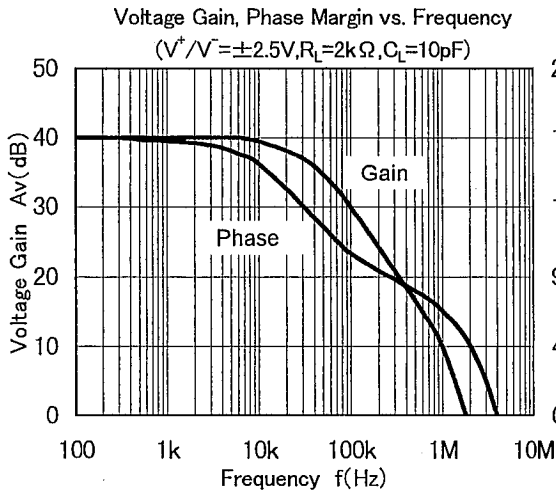
(note)When the supply voltage is less than +20V,the absolute maximum input voltage is equal to the supply voltage.

## ■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=5V, Ta=25°C)

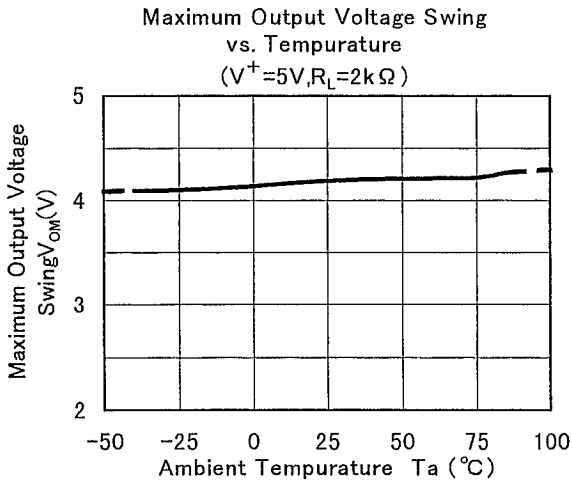
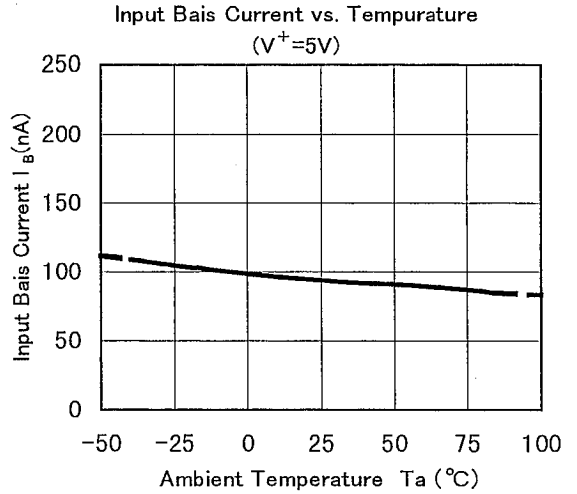
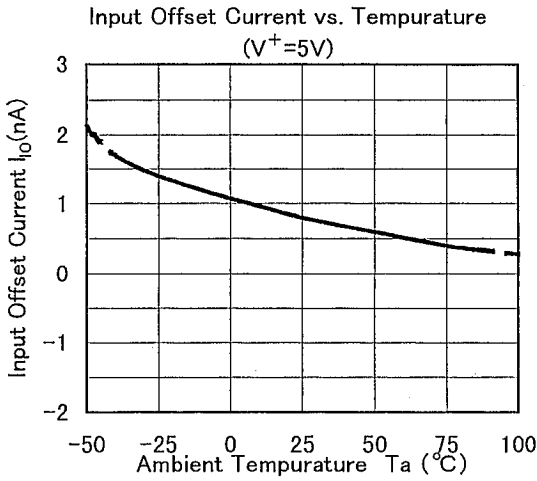
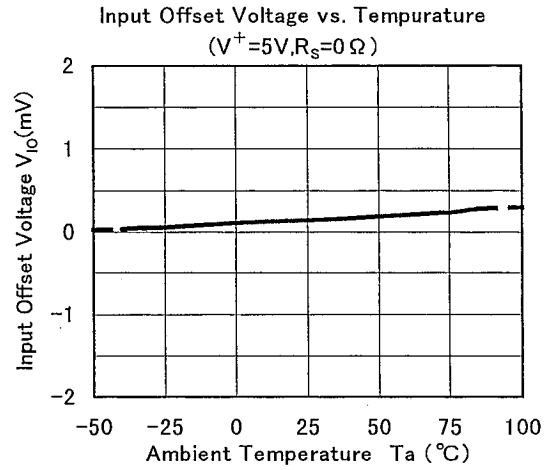
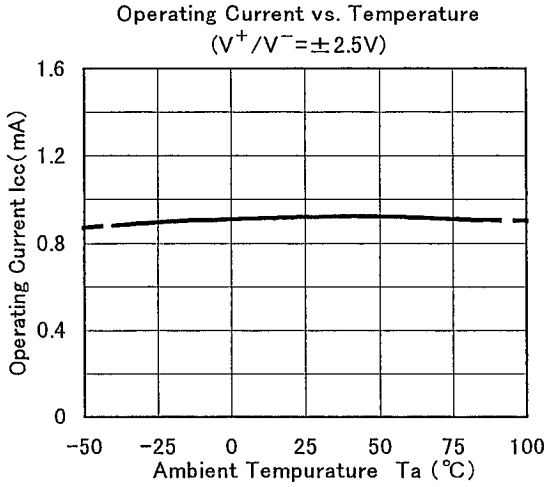
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V <sub>IO</sub>	R <sub>S</sub> =0Ω	—	2	7	mV
Input Offset Current	I <sub>IO</sub>		—	5	50	nA
Input Bias Current	I <sub>B</sub>		—	25	250	nA
Large Signal Voltage Gain	A <sub>V</sub>	R <sub>L</sub> ≥2kΩ	88	100	—	dB
Maximum Output Voltage Swings	V <sub>OM</sub>	R <sub>L</sub> =2kΩ	3.5	—	—	V
Input Common Mode Voltage Range	V <sub>ICM</sub>		0~3.5	—	—	V
Common Mode Rejection Ratio	CMR		70	90	—	dB
Supply Voltage Rejection Ratio	SVR		80	94	—	dB
Output Source Current	I <sub>SOURCE</sub>	V <sub>IN</sub> <sup>+</sup> =1V, V <sub>IN</sub> <sup>-</sup> =0V	20	30	—	mA
Output Sink Current	I <sub>SINK</sub>	V <sub>IN</sub> <sup>+</sup> =0V, V <sub>IN</sub> <sup>-</sup> =1V	8	20	—	mA
Operating Current	I <sub>CC</sub>	R <sub>L</sub> =∞	—	1.0	1.75	mA
Slew Rate	SR		—	1.2	—	V/μs
Unity Gain Frequency	f <sub>T</sub>		—	1.2	—	MHz

## TYPICAL CHARACTERISTICS



# NJM2125

## TYPICAL CHARACTERISTICS



# NJM2125

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## MEMO

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