

## SINGLE-SUPPLY OPERATIONAL AMPLIFIER

### ■ GENERAL DESCRIPTION

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

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

### ■ PACKAGE OUTLINE

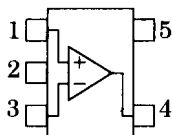


NJM2125F

### ■ FEATURES

- Single-Supply Operation
- Low Operating Voltage ( +2.7V~20V )
- Low Operating Current ( 1.0mA typ. )
- Slew Rate ( 1.2V/μs typ. )
- Small Package ( SOT-23-5 )
- Bipolar Technology

### ■ PIN CONFIGURATION

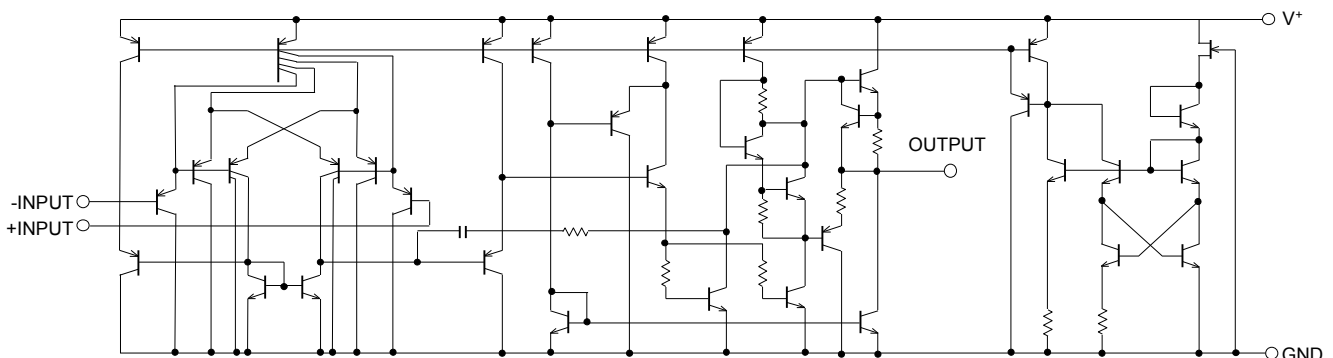


NJM2125F  
(Top View)

#### PIN FUCTION

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	$V_{ID}$	+20	V
Input Voltage	$V_{IC}$	-0.3~+20 ( Note )	V
Power Dissipation	$P_D$	(SOT-23-5) 200	mW
Operating Temperature Range	$T_{opr}$	-40~85	°C
Storage Temperature Range	$T_{stg}$	-40~125	°C

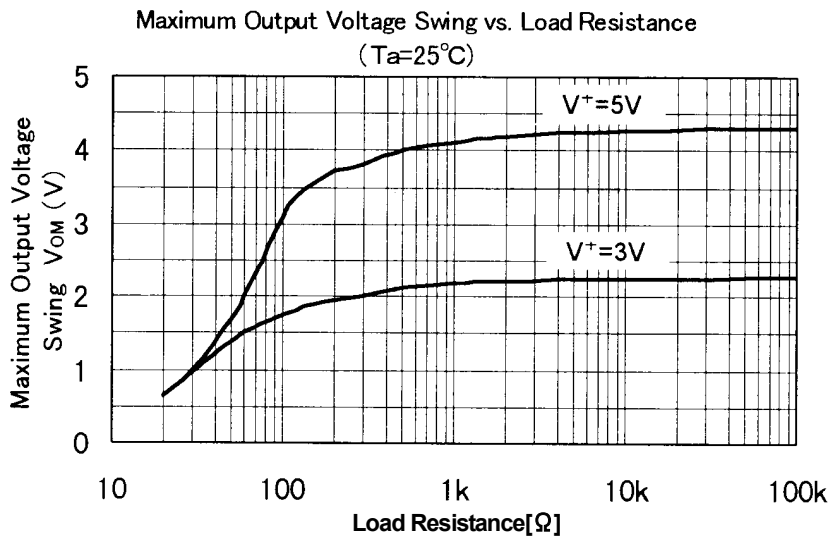
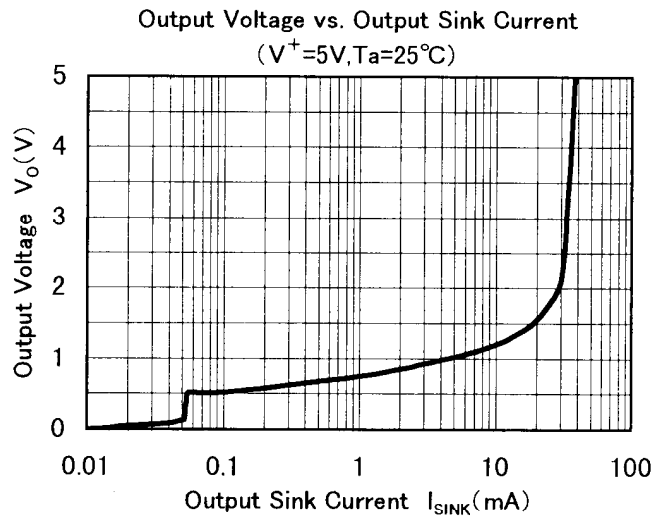
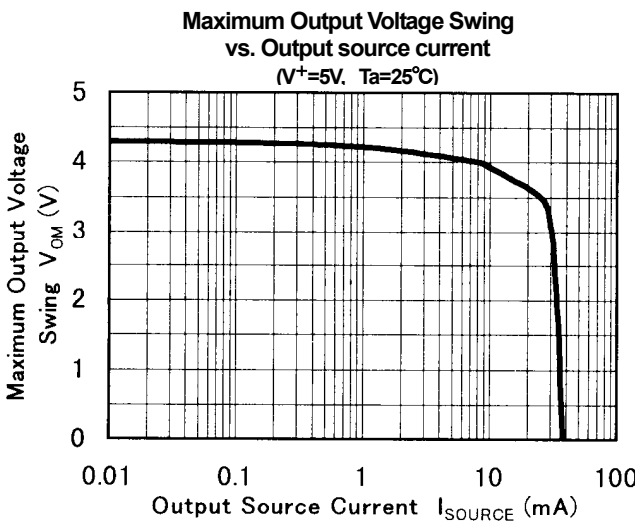
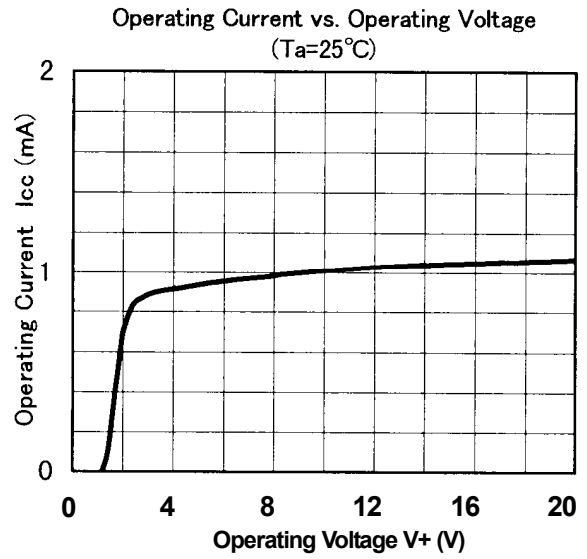
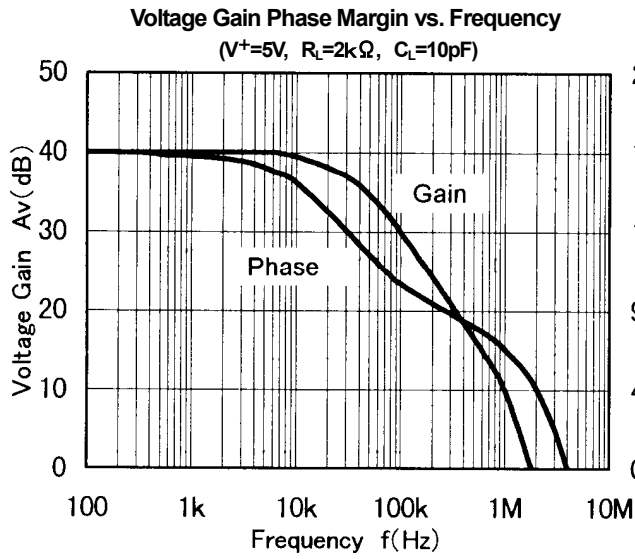
( note ) When the supply voltage is less than +20V, the absolute maximum input voltage is equal to the supply voltage.

## ■ ELECTRICAL CHARACTERISTICS

(  $V^+=5V, T_a=25^\circ C$  )

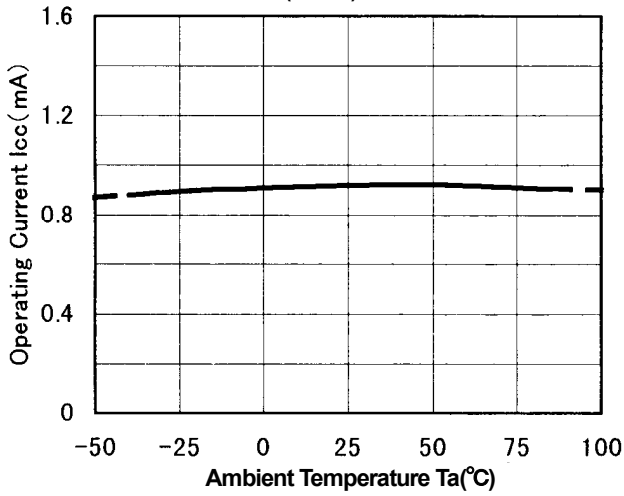
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	$V_{IO}$	$R_S=0\Omega$	-	2	7	mV
Input Offset Current	$I_{IO}$		-	5	50	nA
Input Bias Current	$I_B$		-	25	250	nA
Large Signal Voltage Gain	$A_V$	$R_L \geq 2k\Omega$	88	100	-	dB
Maximum Output Voltage Swings	$V_{OM}$	$R_L=2k\Omega$	3.5	-	-	V
Input Common Mode Voltage Range	$V_{ICM}$		0~3.5	-	-	V
Common Mode Rejection Ratio	CMR		70	90	-	dB
Supply Voltage Rejection Ratio	SVR		80	94	-	dB
Output Source Current	$I_{SOURCE}$	$V_{IN}^+=1V, V_{IN}^-=0V$	20	30	-	mA
Output Sink Current	$I_{SINK}$	$V_{IN}^+=0V, V_{IN}^-=1V$	8	20	-	mA
Operating Current	$I_{CC}$	$R_L=\infty$	-	1.0	1.75	mA
Slew Rate	SR		-	1.2	-	V/ $\mu s$
Unity Gain Frequency	$f_T$		-	1.2	-	MHz

## ■ TYPICAL CHARACTERISTICS

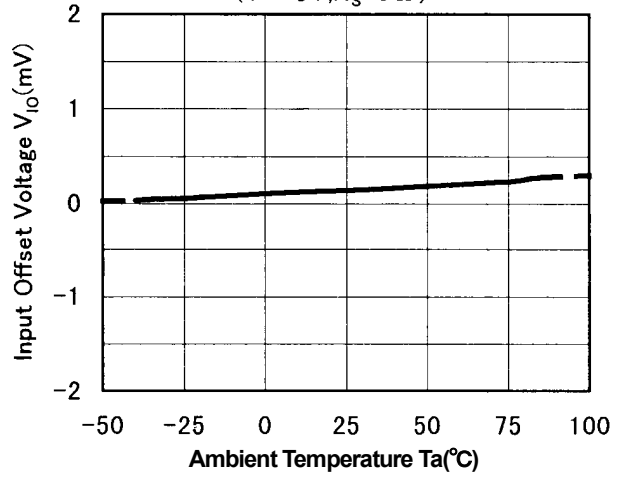


## ■ TYPICAL CHARACTERISTICS

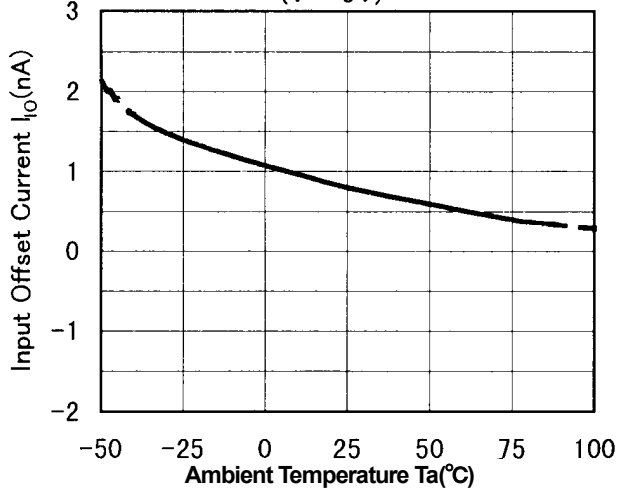
Operating Current vs. Temperature  
( $V^+=5V$ )



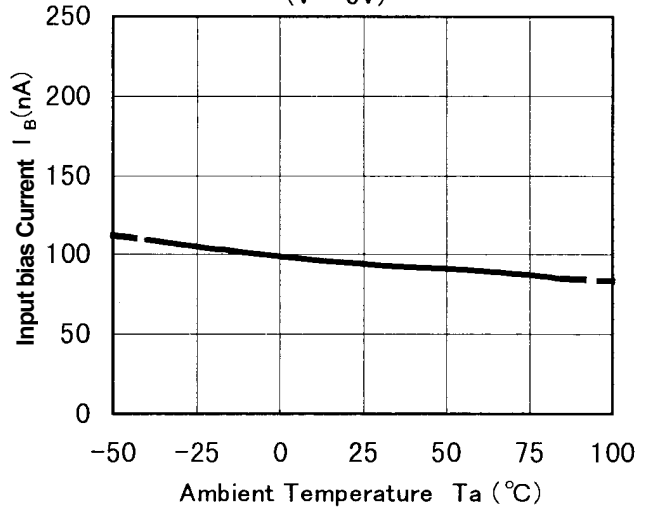
Input Offset Voltage vs. Temperature  
( $V^+=5V, R_s=0\Omega$ )



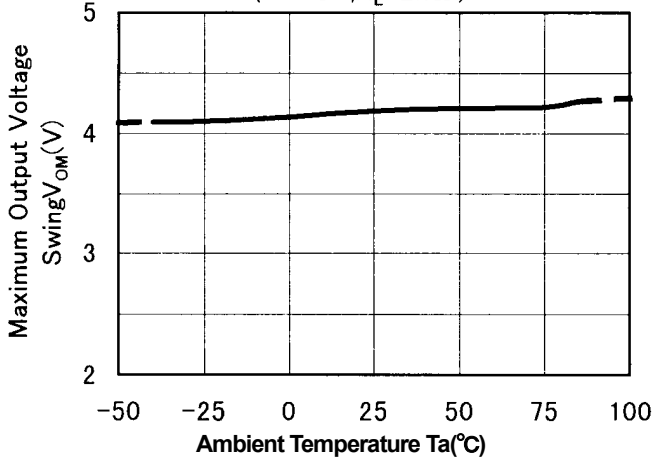
Input Offset Current vs. Temperature  
( $V^+=5V$ )



Input bias Current vs. Temperature  
( $V^+=5V$ )



Maximum Output Voltage Swing vs. Temperature  
( $V^+=5V, R_L=2k\Omega$ )



**[CAUTION]**

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