

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

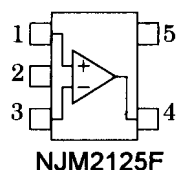


NJM2125PB1

■ FEATURES

- Single-Supply Operation
- Low Operating Voltage (+2.7V~20V)
- Low Operating Current (1.0mA typ.)
- Slew Rate (1.2V/μs typ.)
- Small Package (MTP5,FFP12)
- Bipolar Technology

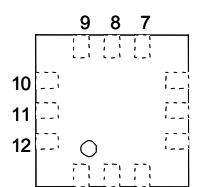
■ PIN CONFIGURATION



PIN FUNCTION

- 1.+INPUT
- 2.GND
- 3.-INPUT
- 4.OUTPUT
- 5.V⁺

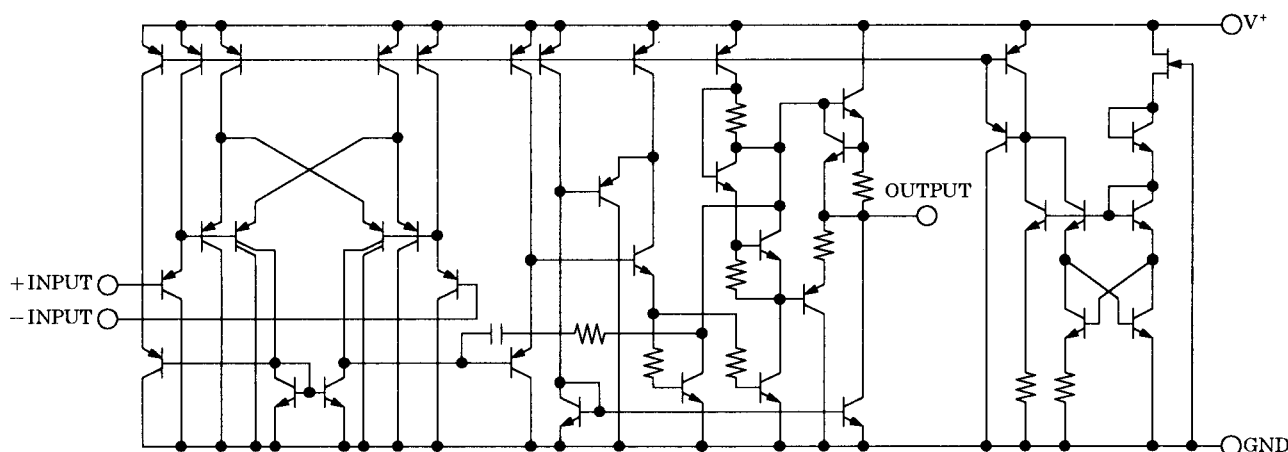
(TOP VIEW)



PIN FUNCTION

- 1.+INPUT
- 2.NC
- 3.-INPUT
- 4.NC
- 5.GND
- 6.NC
- 7.OUTPUT
- 8.NC
- 9.V⁺
- 10.NC
- 11.NC
- 12.NC

■ 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 (note1)	V
Power Dissipation	P_D	(MTP-5)200 (FFP12)300(note2)	mW
Operating Temperature Range	T_{opr}	-40~85	°C
Storage Temperature Range	T_{stg}	-40~125	°C

(note1) When the supply voltage is less than +20V, the absolute maximum input voltage is equal to the supply voltage.

(note2)On glass epoxy board.

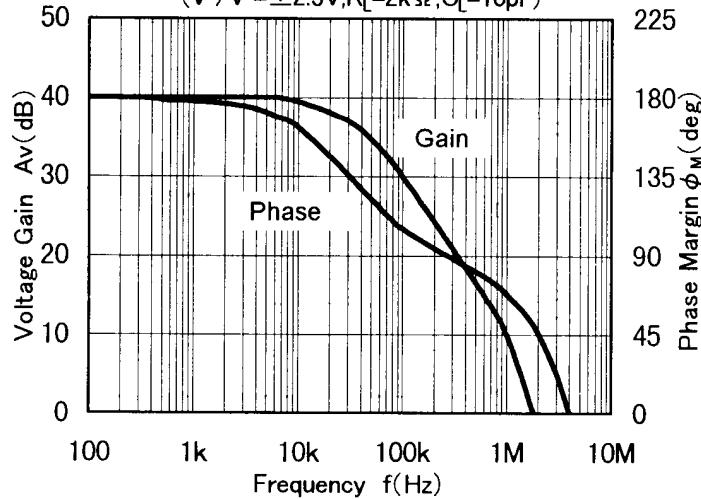
■ ELECTRICAL CHARACTERISTICS

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

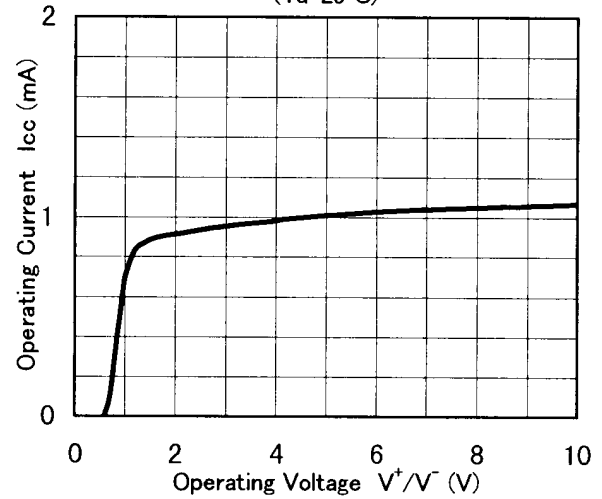
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S=0\Omega$	-	2	7	mV
Input Offset Current	I_{IO}		-	5	50	nA
Input Bias Current	I_B		-	25	250	nA
Large Signal Voltage Gain	A_V	$R_L \geq 2k\Omega$	88	100	-	dB
Maximum Output Voltage Swings	V_{OM}	$R_L=2k\Omega$	3.5	-	-	V
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/ μs
Unity Gain Frequency	f_T		-	1.2	-	MHz

■ TYPICAL CHARACTERISTICS

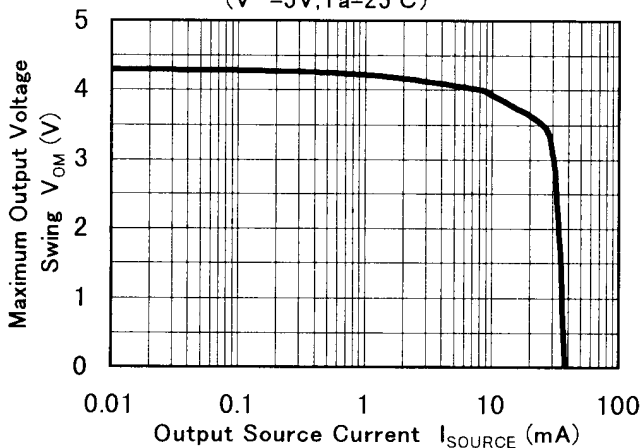
Voltage Gain, Phase Margin vs. Frequency
($V^+/V^- = \pm 2.5V, R_L = 2k\Omega, C_L = 10pF$)



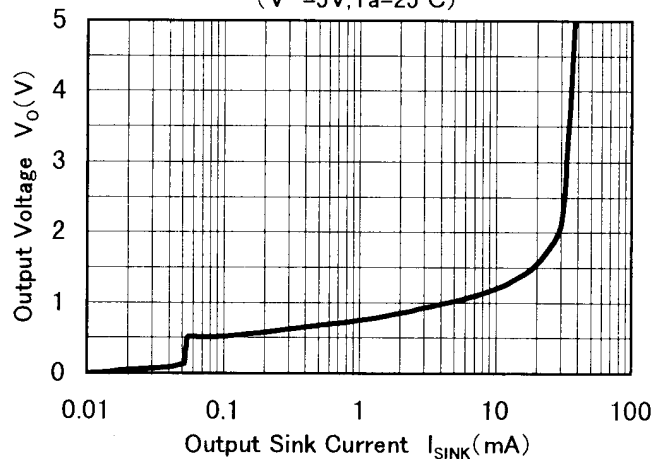
Operating Current vs. Operating Voltage
($T_a = 25^\circ C$)



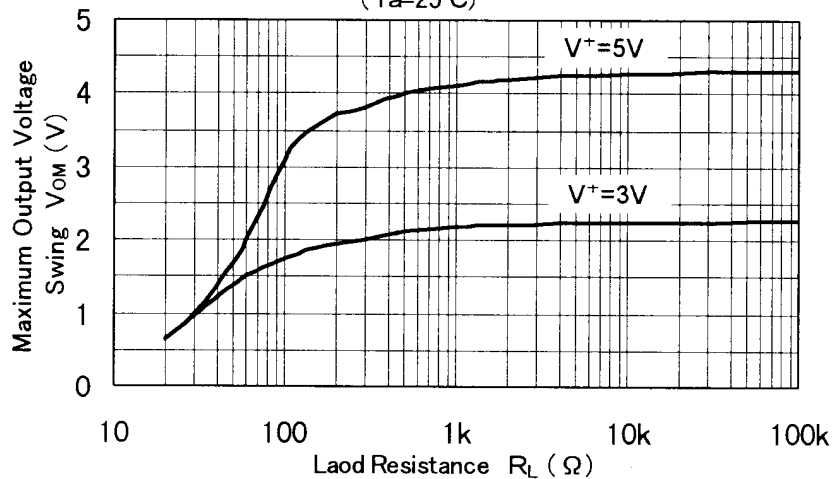
Maximum Output Voltage Swing vs. Output Source Current
($V^+ = 5V, T_a = 25^\circ C$)



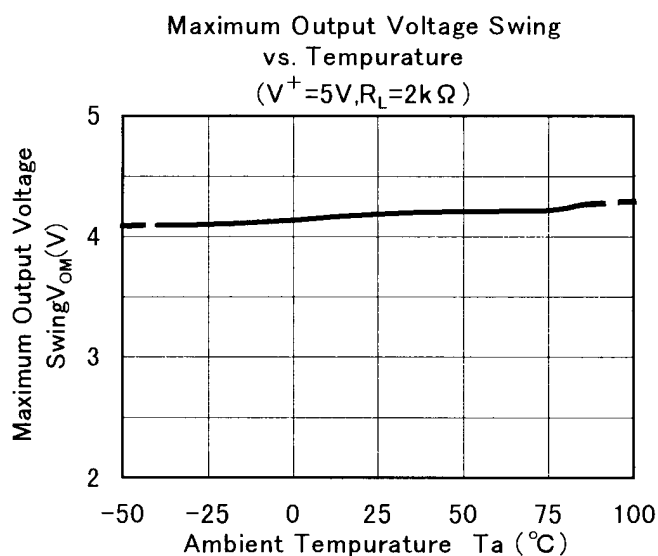
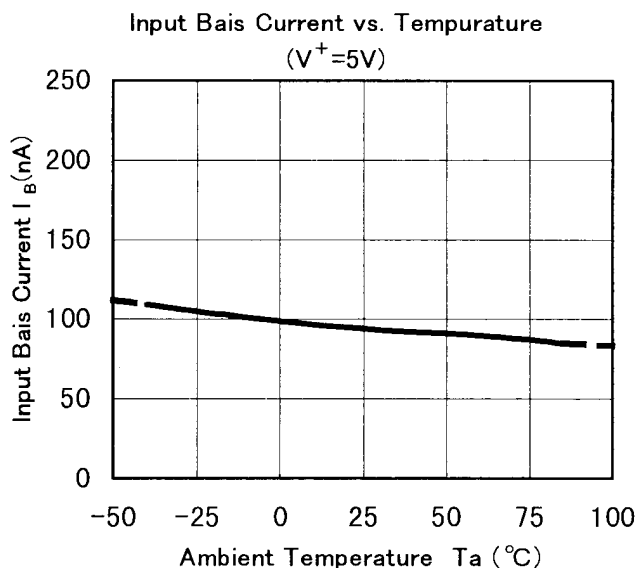
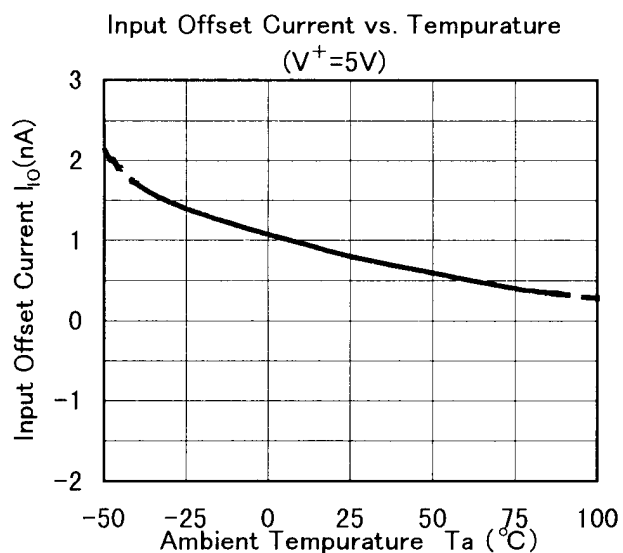
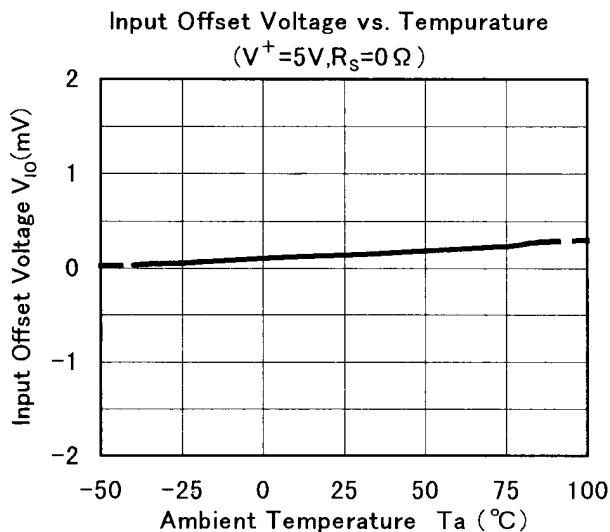
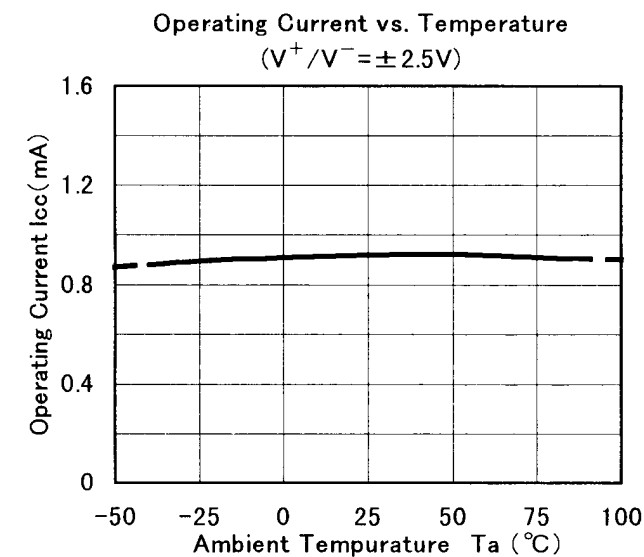
Output Voltage vs. Output Sink Current
($V^+ = 5V, T_a = 25^\circ C$)



Maximum Output Voltage Swing vs. Load Resistance
($T_a = 25^\circ C$)



■ TYPICAL CHARACTERISTICS



[CAUTION]

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