

SINGLE-SUPPLY DUAL HIGH CURRENT OPERATIONAL AMPLIFIER

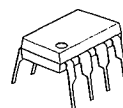
■ GENERAL DESCRIPTION

The NJM3414A integrated circuit is a high gain, high output current, high output voltage swing dual operational amplifier capable of driving 70mA.

■ FEATURES

- Single Supply
- Operating Voltage (+3V ~ +15V)
- High Output Current (70mA)
- Slew Rate (1.0V/μs typ.)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

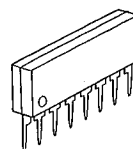
■ PACKAGE OUTLINE



NJM3414AD



NJM3414AM



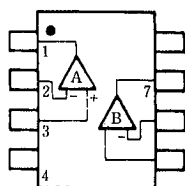
NJM3414AL



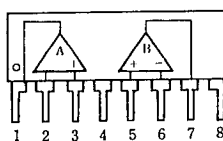
NJM3414AV

※S-Type (SID-9) available

■ PIN CONFIGURATION



NJM3414AD
NJM3414AM
NJM3414AV

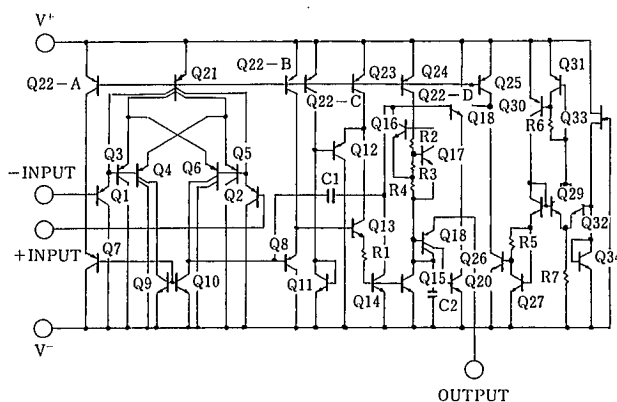


NJM3414AL

PIN FUNCTION

1. A OUTPUT
2. A-INPUT
3. A+INPUT
4. GND
5. B+INPUT
6. B-INPUT
7. B OUTPUT
8. V+

■ EQUIVALENT CIRCUIT (1/2 Shown)



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

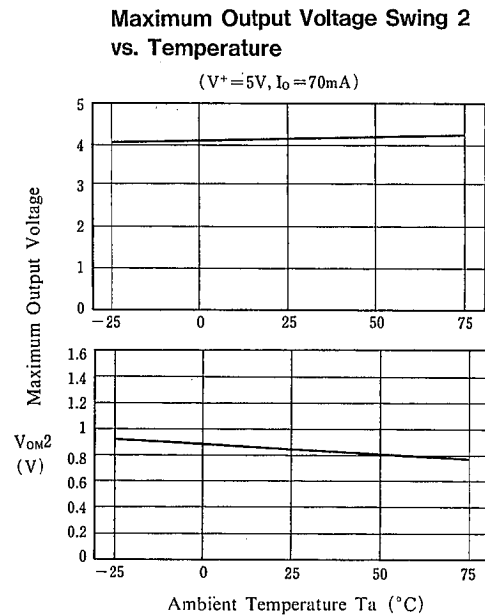
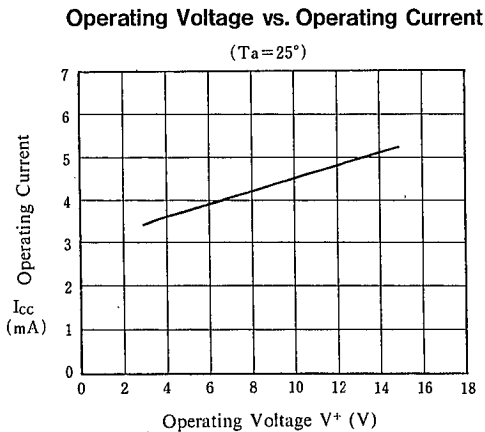
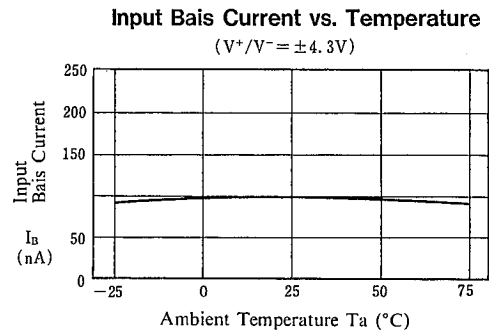
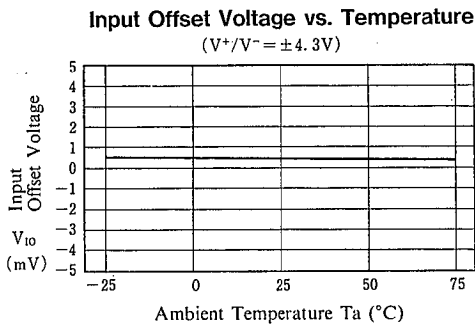
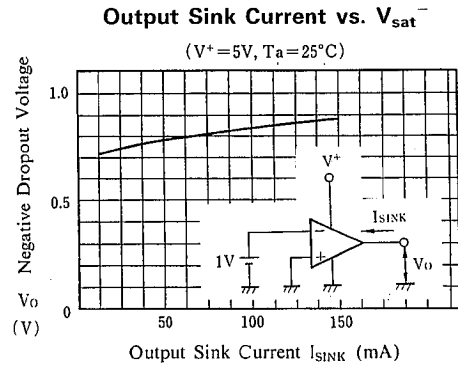
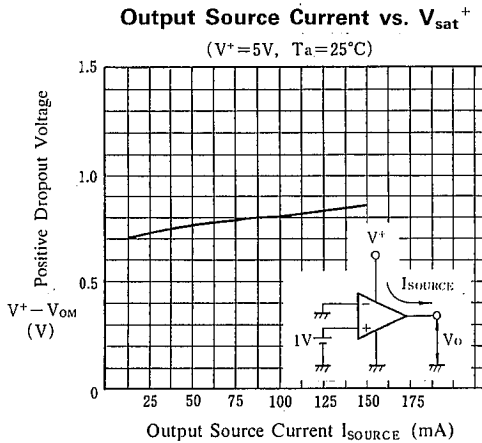
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V^+(V^-)$	15V(or ± 7.5)	V
Differential Input Voltage	V_{ID}	15	V
Input Voltage	V_{IC}	-0.3~+15	V
Power Dissipation	P_D	(DIP8) 500	mW
		(DMP8) 300	mW
		(SSOP8) 250	mW
		(SIP8) 800	mW
Operating Temperature Range	T_{opr}	-20~+75	°C
Storage Temperature Range	T_{stg}	-40~+125	°C

■ ELECTRICAL CHARACTERISTICS

(Ta=25°C, $V^+=8.6V$)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	$R_S=0\Omega$	—	2	5	mV
Input Offset Current	I_{IO}		—	5	100	nA
Input Bias Current	I_B		—	100	500	nA
Large Signal Voltage Gain	A_V	$R_L=2k\Omega$	88	100	—	dB
Input Common Voltage Range	V_{ICM}		V^+-2	—	—	V
Maximum Output Voltage Swing 1	V_{OM1}	$R_L \geq 2k\Omega$, $V^+=5V$	3.5	—	—	V
Maximum Output Voltage Swing 2	V_{OM2}	$I_O=70mA$, $V^+=5V$	3.2	—	—	V
Common Mode Rejection Ratio	CMR		80	90	—	dB
Supply Voltage Rejection Ratio	SVR		80	90	—	dB
Operating Current	I_{CC}	$R_L=\infty$	3	4	5	mA
Slew Rate	SR		—	1.0	—	V/ μS
Gain Bandwidth Product	GB		—	1.3	—	MHz
Operating Voltage Range	V^+		—	—	15	V

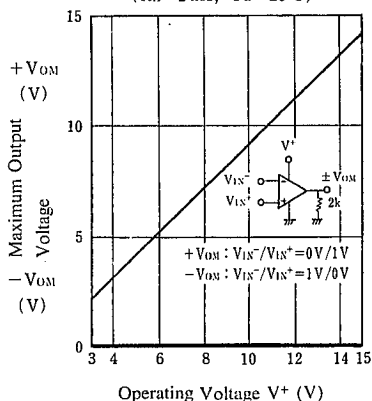
TYPICAL APPLICATIONS



■ TYPICAL CHARACTERISTICS

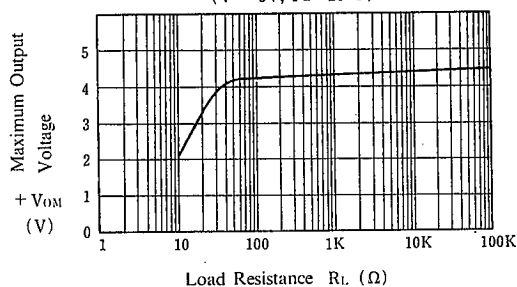
Maximum Output Voltage
vs. Operating Voltage

($R_L = 2\text{ k}\Omega$, $T_a = 25^\circ\text{C}$)



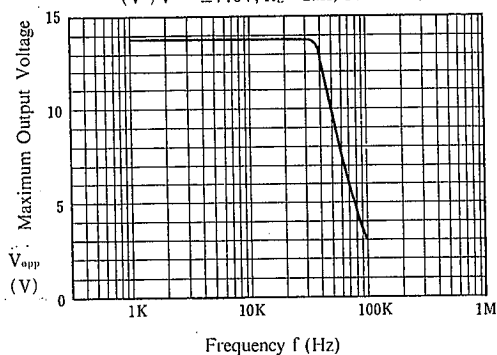
Maximum Output Voltage
vs. Load Resistance

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



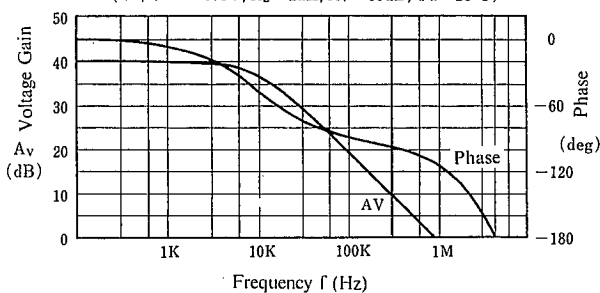
Maximum Output Voltage vs. Frequency

($V^+/V^- = \pm 7.5\text{V}$, $R_L = 2\text{ k}\Omega$, $T_a = 25^\circ\text{C}$)



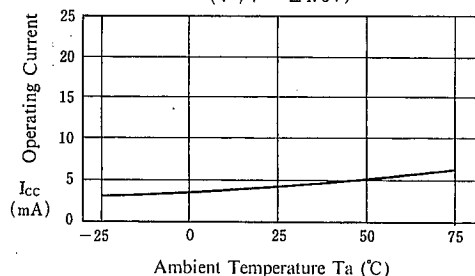
Voltage Gain, Phase vs. Frequency

($V^+/V^- = \pm 4.3\text{V}$, $R_L = 2\text{ k}\Omega$, $A_v = 40\text{dB}$, $T_a = 25^\circ\text{C}$)



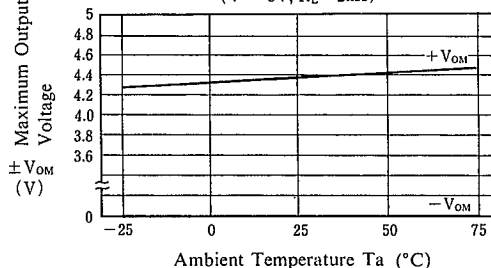
Operating Current vs. Temperature

($V^+/V^- = \pm 4.3\text{V}$)



Maximum Output Voltage vs. Temperature

($V^+ = 5\text{V}$, $R_L = 2\text{ k}\Omega$)



MEMO

[CAUTION]

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