

SINGLE-SUPPLY DUAL HIGH CURRENT OPERATIONAL AMPLIFIER

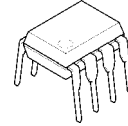
■ GENERAL DESCRIPTION

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 typ.)
- Slew Rate (1.0V/μs typ.)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

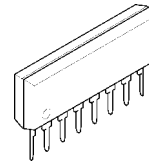
■ PACKAGE OUTLINE



NJM3414AD



NJM3414AM

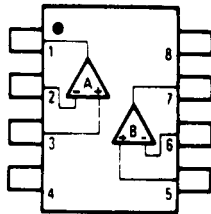


NJM3414AL

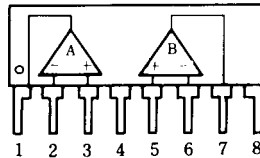


NJM3414AV

■ PIN CONFIGURATION



NJM3414AD
NJM3414AM
NJM3414AV

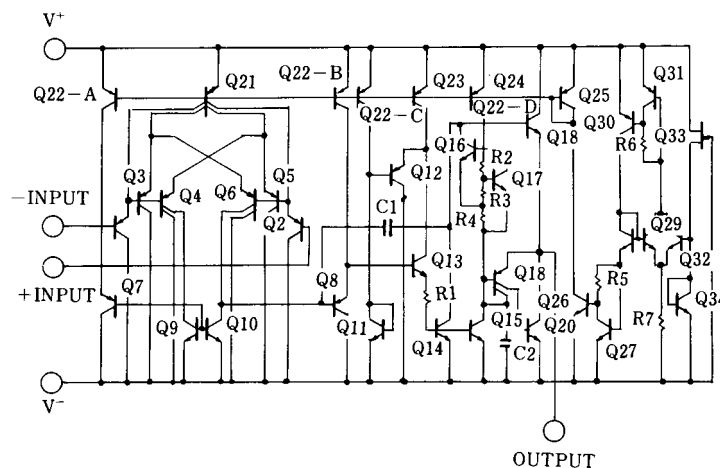


NJM3414AL

PIN FUNCTION

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

■ EQUIVALENT CIRCUIT (1/2 Shown)



NJM3414A

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

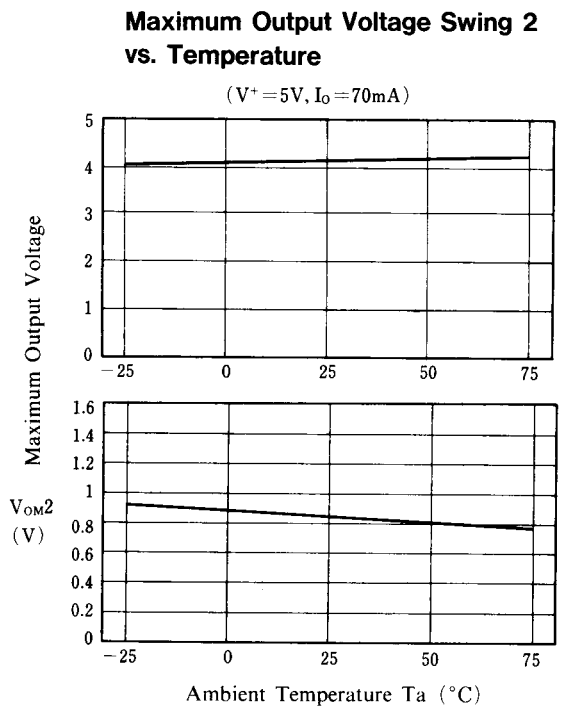
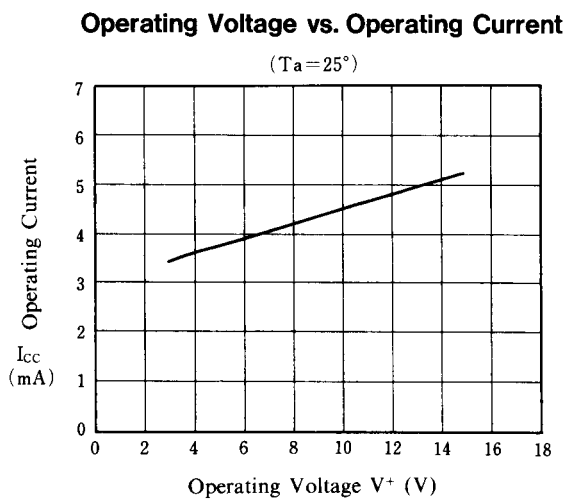
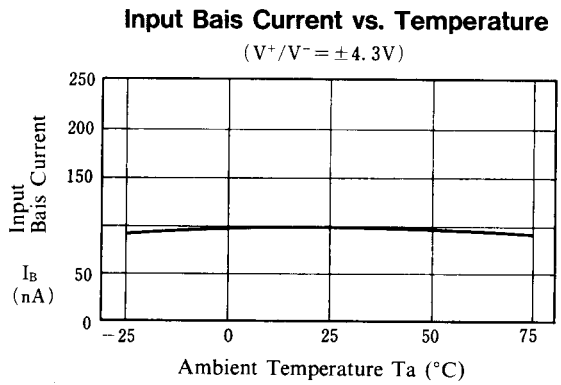
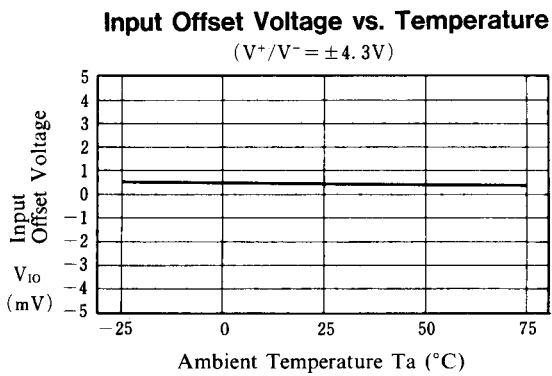
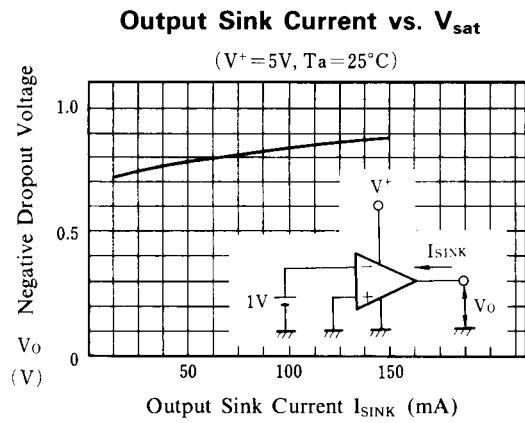
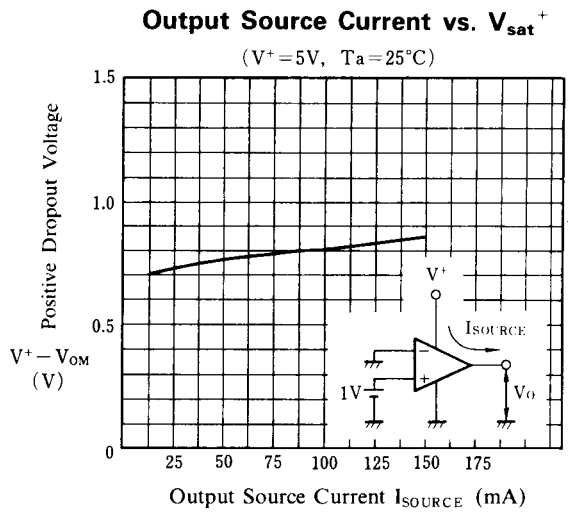
| PARAMETER | SYMBOL | RATINGS | UNIT |
|-----------------------------|--------------|---|------|
| Supply Voltage | $V^+(V^-/V)$ | 15V (or ± 7.5) | V |
| Differential Input Voltage | V_{ID} | 15 | V |
| Input Voltage | V_{IC} | -0.3~+15 | V |
| Power Dissipation | P_D | (DIP8) 500 (DMP8) 300 (SSOP8) 250 (SIP8) 800 | mW |
| Operating Temperature Range | T_{opr} | -40~+85 | °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 |

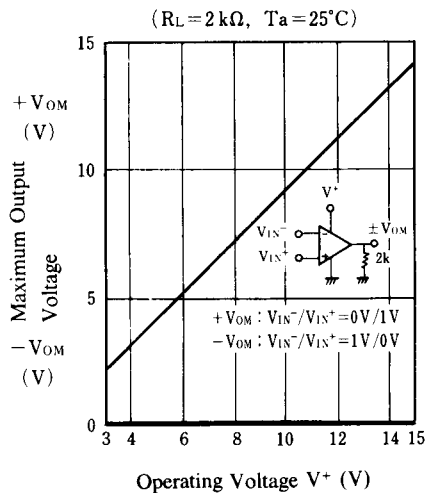
■ TYPICAL CHARACTERISTICS



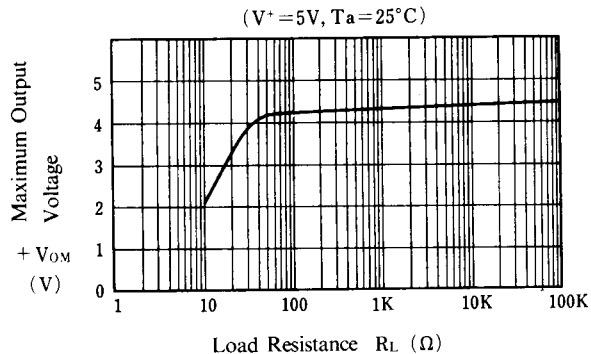
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■ TYPICAL CHARACTERISTICS

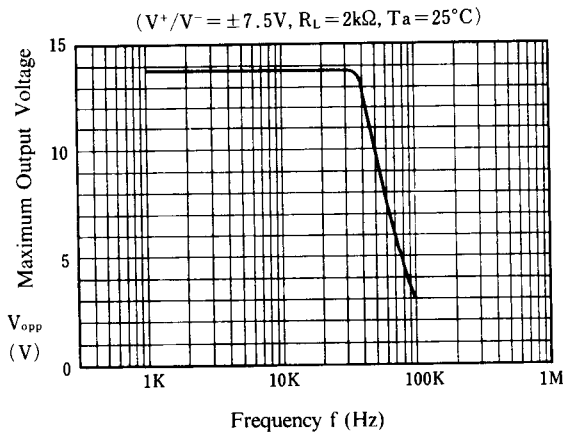
Maximum Output Voltage vs. Operating Voltage



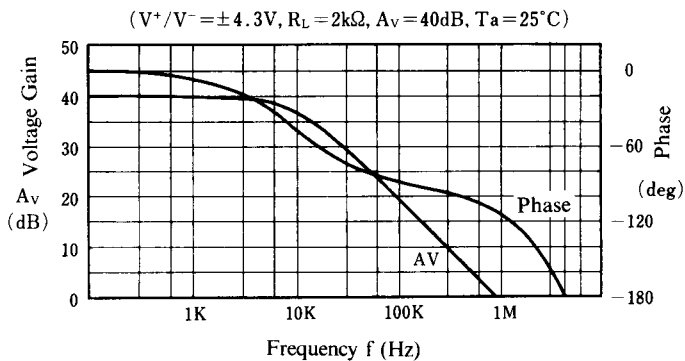
Maximum Output Voltage vs. Load Resistance



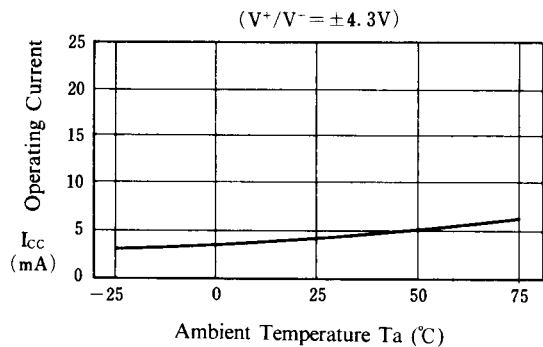
Maximum Output Voltage vs. Frequency



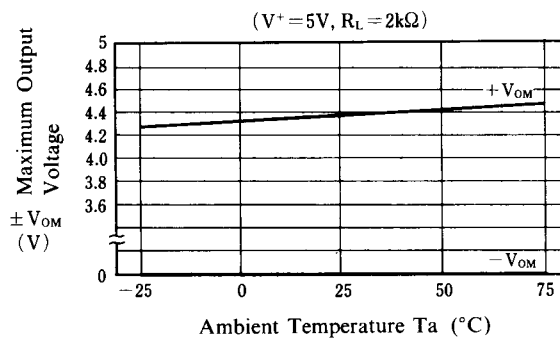
Voltage Gain, Phase vs. Frequency



Operating Current vs. Temperature



Maximum Output Voltage vs. Temperature



[CAUTION]

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