

ULTRA WIDE BAND, HIGH SLEW RATE DUAL OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM2137 is an ultra wide band, high slew rate dual operational amplifier operated from low voltage ($\pm 1.35V$).

It can apply to active filter, high speed analog and digital signal processor, line driver, HDTV, industrial measurement equipment and others.

It can also apply to portable communication items because of low operating voltage and low operating current.

■ PACKAGE OUTLINE



NJM2137V

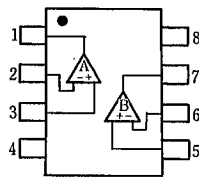


NJM2137M

■ FEATURES

- Operating Voltage ($\pm 1.35V \sim \pm 6V$)
- Ultra Wide Band (200MHz typ.)
- High Slew Rate (45V/ μs typ.)
- Low Operating Current (1.14mA typ.)
- Bipolar Technology
- Package Outline SSOP8, DMP8

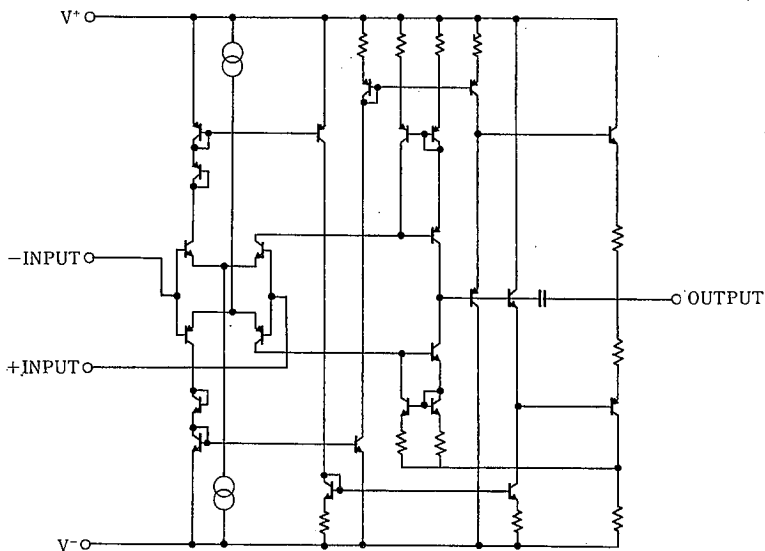
■ PIN CONFIGURATION



NJM2137M
NJM2137V

- 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)



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-----------------------------|--------------------------------|-----------------------------|------|
| Supply Voltage | V ⁺ /V ⁻ | ±6.75 | V |
| Differential Input Voltage | V _{ID} | ±3 | V |
| Power Dissipation | P _D | (SSOP-8) 250 (DMP-8) 300 | mW |
| Operating Temperature Range | T _{opr} | -40~+85 | °C |
| Storage Temperature Range | T _{stg} | -50~+125 | °C |

■ ELECTRICAL CHARACTERISTICS

(V⁺/V⁻ = ±2.5V, Ta=25°C)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---------------------------------|--------------------------------|-----------------------------|-------|-------|-------|------|
| Operating Voltage | V ⁺ /V ⁻ | | ±1.35 | ±2.50 | ±6.00 | V |
| Input Offset Voltage | V _{IO} | R _S =0Ω | - | 1.0 | 5.0 | mV |
| Input Bias Current | I _B | | - | 0.5 | 2.0 | μA |
| Input Offset Current | I _{IO} | | - | 20 | 200 | nA |
| Large Signal Voltage Gain | A _V | R _L ≥ 10kΩ | 65 | 75 | - | dB |
| Input Common Mode Voltage Range | V _{ICM} | | 1.2 | 1.5 | - | V |
| | | | -1.2 | -1.5 | - | |
| Common Mode Rejection Ratio | CMR | -1V ≤ V _{cm} ≤ +1V | 45 | 60 | - | dB |
| Supply Voltage Rejection Ratio | +SVR | | 50 | 60 | - | dB |
| | -SVR | | 70 | 80 | - | |
| Maximum Output Voltage Swing | V _{OM} | R _L =1kΩ | 1.1 | 1.4 | - | V |
| | | | -0.9 | -1.2 | - | |
| Operating Current | I _{CC} | R _L =∞(all Amp.) | - | 1.14 | 1.5 | mA |
| Slew Rate | SR | A _V =0dB | - | 45 | - | V/μs |
| Gain Bandwidth Product | GB | 60dB · 500kHz | 100 | 200 | - | MHz |
| Phase Margin | φ _M | 40dB | - | 25 | - | deg |
| Unity Gain Bandwidth | f _T | 40dB | - | 40 | - | MHz |

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MEMO

[CAUTION]

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