

## NTE1529 Integrated Circuit Dual OP Amp

### **Description:**

The NTE1529 is a dual operational Amplifier with a phase compensation circuit built-in. It is suited for application to various electronic circuits such as active filters and audio preamplifiers.

### **Features:**

- Phase Compensation Circuit
- High Gain, Low Noise
- Output Short-Circuit Protection
- Two Circuits Symmetrically Arranged in 9-Lead plastic SIP Package

### **Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

Voltage, Supply Voltage,  $V_{CC}$ ,  $V_{EE}$  .....  $\pm 18\text{V}$   
Differential Input Voltage,  $V_{ID}$  .....  $\pm 30\text{V}$   
Common-Mode Input Voltage,  $V_{ICM}$  .....  $\pm 15\text{V}$   
Power Dissipation,  $P_D$  .....  $500\text{mW}$   
Operating Ambient Temperature Range,  $T_{opr}$  .....  $-20^\circ$  to  $+75^\circ\text{C}$   
Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  to  $+125^\circ\text{C}$

### **Electrical Characteristics:** ( $V_{CC} = 15\text{V}$ , $V_{EE} = -15\text{V}$ , $T_A = +25^\circ\text{C}$ unless otherwise specified)

| Parameter                       | Symbol                 | Test Conditions                                               | Min      | Typ      | Max | Unit                       |
|---------------------------------|------------------------|---------------------------------------------------------------|----------|----------|-----|----------------------------|
| Input Offset Voltage            | $V_{I(\text{offset})}$ | $R_S \leq 10\text{k}\Omega$                                   | —        | 0.5      | 6   | mV                         |
| Input Offset Current            | $I_{10}$               |                                                               | —        | 5        | 200 | nA                         |
| Input Bias Current              | $I_{BIAS}$             |                                                               | —        | —        | 500 | nA                         |
| Voltage Gain                    | $G_V$                  | $R_L \geq 2\text{k}\Omega$ , $V_O = \pm 10\text{V}$           | 86       | 100      | —   | dB                         |
| Maximum Output Voltage          | $V_{O(\text{max})}$    | $R_L \geq 10\text{k}\Omega$                                   | $\pm 12$ | $\pm 14$ | —   | V                          |
|                                 |                        | $R_L \geq 2\text{k}\Omega$                                    | $\pm 10$ | $\pm 13$ | —   | V                          |
| Common-Mode Input Voltage Width | $V_{CM}$               |                                                               | $\pm 12$ | $\pm 14$ | —   | V                          |
| Common-Mode Rejection Ratio     | CMR                    |                                                               | 70       | 90       | —   | dB                         |
| Supply Voltage Rejection Ratio  | SVR                    |                                                               | —        | 30       | 150 | $\mu\text{V/V}$            |
| Power Consumption               | $P_C$                  | $R_L = \infty$                                                | —        | 90       | 170 | mW                         |
| Slew Rate                       | SR                     | $R_L \geq 2\text{k}\Omega$                                    | —        | 1.0      | —   | V/ $\mu\text{s}$           |
| Input Referred Noise Voltage    | $V_{ni}$               | $R_S = 1\text{k}\Omega$ , $B = 10\text{Hz} \sim 30\text{kHz}$ | —        | 2.5      | —   | $\mu\text{V}_{\text{rms}}$ |

**Pin Connection Diagram**  
(Front View)

