

## NTE829 Integrated Circuit Electronics Attenuator, 90dB @ 1kHz

### **Features:**

- Designed for use in:  
    DC Operated Volume Control  
    Compression & Expansion Amplifier Applications.
- Controlled by DC Voltage or External Variable Resistor
- Economical 8-Lead DIP Package
- Temperature Range: 0° to +75°C

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

Power Supply Voltage,  $V_{CC}$  ..... 20V  
 Power Dissipation ( $T_A = +25^\circ\text{C}$ ),  $P_D$  ..... 1.2W  
     Derate above  $25^\circ\text{C}$  ..... 10mW/ $^\circ\text{C}$   
 Operating Ambient Temperature Range,  $T_{opr}$  ..... 0° to +75°C

### **Electrical Characteristics:** ( $e_{in} = 100\text{mV}_{(RMS)}$ , $f = 1.0\text{kHz}$ , $V_{CC} = 16\text{V}$ , $T_A = +25^\circ\text{C}$ , unless otherwise indicated)

| Parameter                      | Symbol   | Test Conditions                                                          | Min | Typ | Max | Unit        |
|--------------------------------|----------|--------------------------------------------------------------------------|-----|-----|-----|-------------|
| Operating Power Supply Voltage | $V_{SS}$ |                                                                          | 9   | –   | 18  | V           |
| Control Pin Sink Current       | $I_C$    | $e_{in} = 0$                                                             | –   | –   | 2   | mA          |
| Maximum Input Voltage          | $V_i$    |                                                                          | –   | –   | 0.5 | $V_{(RMS)}$ |
| Voltage Gain                   | $A_V$    |                                                                          | 11  | 13  | –   | dB          |
| Attenuation Range              | K        | $R_C = 33\text{k}\Omega$                                                 | 70  | 90  | –   | dB          |
| Total Harmonic Distortion      | THD      | Pin2 GND, $e_{in} = 100\text{mV}_{(RMS)}$ ,<br>$e_o = A_V \times e_{in}$ | –   | 0.6 | 1.0 | %           |

## Pin Connection Diagram

