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NTE1561 Integrated Circuit 5 LED VU Level Meter

Description:

The NTE1561 is a monolithic integrated circuit in a 9-Lead SIP type package designed for use as a 5 dot LED level meter driver. With a built-in rectifying amplifier, this device is suitable for AC/DC level meter applications such as VU meters or signal meters.

Features:

- Built-In High Gain Rectifying Amplifier ($A_v = 26\text{dB}$)
- Low Radiation Noise when LED Turns On
- Logarithmic Indicator for Bar Type 5 Dot LED ($-10, -5, 0, +3, +6\text{dB}$)
- Constant Current Output: $I_o = 15\text{mA Typ}$
- Wide Operating Supply Voltage Range: 3.5V to 16V
- Minimum Number of External Components Required

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

| | |
|--|-------------------------------------|
| Supply Voltage, V_{CC} | 18V |
| Amp Input Voltage, V_{8-5} | -0.5 to V_{CC} |
| Pin7 Voltage, V_{7-5} | 6V |
| D Terminal Output Voltage, V_D | 18V |
| Circuit Current, I_{CC} | 12mA |
| D Terminal Output Current, I_D | 20mA |
| Power Dissipation, P_d | 1100mW |
| Derate Above 25°C | 11mW/ $^\circ\text{C}$ |
| Operating Temperature Range, T_{opr} | -25° to $+80^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -40° to $+125^\circ\text{C}$ |

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 6\text{V}$, $f = 1\text{kHz}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------|----------|----------------------|------|------|------|---------------|
| Circuit Current | I_{CC} | $V_i = 0\text{V}$ | - | 6.0 | 8.5 | mA |
| D Output Current | I_o | $V_i = 0.15\text{V}$ | 11.0 | 15.0 | 18.5 | mA |
| Input Bias Current | I_B | | -1 | - | 0 | μA |
| Amp Gain | A_v | $V_i = 0.1\text{V}$ | 24 | 26 | 28 | dB |
| Comparator ON Level | GD_1 | | -12 | -10 | -8 | dB |
| | GD_2 | | -6 | -5 | -4 | dB |
| | GD_3 | Note 1 | - | 0 | - | dB |
| | GD_4 | | 2.5 | 3.0 | 3.5 | dB |
| | GD_5 | | 5.0 | 6.0 | 7.0 | dB |

Note 1. Definition of 0dB: Input voltage level when GD_3 turn ON (50mV).



Pin Connection Diagram
(Front View)

