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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:  $3.5\text{V to }16\text{V}$
- 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 $25^\circ\text{C}$ .....	$11\text{mW}/^\circ\text{C}$
Operating Temperature Range, $T_{opr}$ .....	$-25^\circ$ to $+80^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-40^\circ$ 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	$\mu\text{A}$
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)

