



**ELECTRONICS, INC.**

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## NTE1783 Integrated Circuit TV Volume Control Circuit

**Features:**

- DC Volume Control System
- 7-Lead SIP Type Package

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

Supply Voltage, $V_{6-4}$ .....	12V
Circuit Voltage, $V_{2-4}$ .....	0 to +7V
Circuit Voltage, $V_{3-4}$ .....	0 to $V_{6-4}$
Supply Current, $I_6$ .....	18mA
Circuit Current, $I_2$ .....	-10 to +5mA <sub>(peak)</sub>
Circuit Current, $I_3$ .....	-10 to +3mA <sub>(peak)</sub>
Circuit Current, $I_5$ .....	-5 to +1mA <sub>(peak)</sub>
Circuit Current, $I_7$ .....	-20 to +0.3mA <sub>(peak)</sub>
Power Dissipation, $P_D$ .....	216mW
Operating Ambient Temperature Range, $T_{opr}$ .....	-20°C to +70°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +150°C

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	$I_6$		9	12	15	mA
Terminal Voltage	$V_{1-4}$		3.3	4.5	5.7	V
	$V_{5-4}$		0.7	1.4	1.8	V
	$V_{7-4}$		3.0	4.1	5.2	V
Maximum Output Voltage	$V_{O(max)}$	$f = 400\text{Hz}$ , THD = 10%	2.6	2.9	3.2	$V_{rms}$
Voltage Gain	$G_V$	$f = 400\text{Hz}$ , when $V_3 = 10\text{V}$ and $V_O = 1V_{rms}$	19.5	22.0	23.5	dB
Total Harmonic Distortion	THD	$f = 400\text{Hz}$ , when $V_3 = 10\text{V}$ and $V_O = 1V_{rms}$	-	0.3	1.0	%
Maximum Attenuation	$A_{tt}$	$f = 400\text{Hz}$ , $V_1 = 0.2V_{rms}$ ratio between $V_3 = 10\text{V}$ and $V_3 = 0$	72	95	-	dB
Mute Operating Voltage	$V_{2-4}$	$f = 400\text{Hz}$ , $V_1 = 0.2V_{rms}$ when $V_O = 0V_{rms}$	2.45	2.70	2.95	V

**Pin Connection Diagram**  
(Front View)

