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NTE1616 Integrated Circuit TV Sound IF Amp/Detector, Driver

Description:

The NTE1616 is a TV sound integrated circuit in a 14-Lead DIP type package that can be operated with no adjustment, using ceramic filters externally. This device contains a DC controlled attenuator, which has wide effective area and gentle characteristic in the changing, so it is convenient especially for a remote controlled set.

Features:

- Gentle Changing DC Controlled Attenuator is Convenient for Remote Controlled Sets.
- Operation with Ceramic Filters makes TV Sound Circuit No Adjustment Completely
- SRPP Output Circuit can be Driven Directly
- Muting Works Quickly
- Low Distortion Demodulation

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

Power Supply Voltage, V_{CC} 0 to 15V
 Voltage (Pin13, Pin14), V_{13}, V_{14} 0 to 15V
 Output Current (Pin2), I_2 0 to 20mA
 Power Dissipation ($T_A = 75^\circ\text{C}$), P_D 350mW
 Operating Temperature Range, T_{opr} -20° to $+75^\circ\text{C}$
 Storage Temperature Range, T_{stg} -40° to $+125^\circ\text{C}$

Electrical Characteristics: ($V_{CC} = 12\text{V}$, $T_A = +25^\circ\text{C} \pm 3^\circ\text{C}$ $f = 4.5\text{mHz}$, $\Delta f = \pm 25\text{kHz}$, $f_M = 400\text{Hz}$, AM MOD = 30% unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	I_{CC}	$V_{CC} = 12\text{V}$ Zero Carrier	15	20	25	mA
IF Limiting Voltage	$V_{i(lim)}$	-3dB point	-	200	400	μV_{rms}
Detector Output Voltage	$V_{O AF}$	$V_i = 10\text{mV}_{rms}$	450	600	750	mV_{rms}
Detector Output Distortion	THD_{DET}	$V_i = 10\text{mV}_{rms}$	-	0.4	1.0	%
AM Rejection	AMR	$V_i \geq 3\text{mV}_{rms}$	-44	-55	-	dB
DC VR Maximum Attenuation	ATT_{VR}	$f_{in} = 400\text{Hz}$, $V_i = 600\text{mV}_{rms}$	70	80	-	dB
DC VR Distortion	THD_{VR}	$f_{in} = 400\text{Hz}$, $V_i = 600\text{mV}_{rms}$ V_8	-	0.4	1.0	%

Electrical Characteristics (Cont'd): ($V_{CC} = 12V$, $T_A = +25^{\circ}C \pm 3^{\circ}C$ $f = 4.5\text{MHz}$, $\Delta f = \pm 25\text{kHz}$, $f_M = 400\text{Hz}$, AM MOD = 30% unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
AF Voltage Gain	G_{VAF}	$f_{in} = 400\text{Hz}$, $V_i = 100\text{mV}_{\text{rms}}$, $R_3 = 1\text{k}\Omega$	11.5	15.0	–	dB
IF Input Resistance	R_{in}		–	1.5	–	$\text{k}\Omega$
IF Input Capacitance	C_{in}		–	2.0	–	pF
Pin4 Input Resistance	R_{in4}		–	20	–	$\text{k}\Omega$
Pin4 Input Capacitance	C_{in4}		–	2.9	–	pF

Pin Connection Diagram

