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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°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°C), P_D 350mW
Operating Temperature Range, T_{opr} . . . . . –20° to +75°C
Storage Temperature Range, T_{stg} . . . . . –40° to +125°C

Electrical Characteristics: (V_{CC} = 12V, T_A = +25°C ±3°C f = 4.5mHz, Δf = ±25kHz, f_M = 400Hz, AM MOD = 30% unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	I_{CC}	V_{CC} = 12V 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 = 10mV_{rms}	450	600	750	mV_{rms}
Detector Output Distortion	THD_{DET}	V_i = 10mV_{rms}	–	0.4	1.0	%
AM Rejection	AMR	$V_i \geq$ 3mV_{rms}	–44	–55	–	dB
DC VR Maximum Attenutation	ATT_{VR}	f_{in} = 400Hz, V_i = 600mV_{rms}	70	80	–	dB
DC VR Distortion	THD_{VR}	f_{in} = 400Hz, V_i = 600mV_{rms} V_8	–	0.4	1.0	%

Electrical Characteristics (Cont'd): (V_{CC} = 12V, T_A = +25°C ±3°C f = 4.5mHz, Δf = ±25kHz, f_M = 400Hz, AM MOD = 30% unless otherwise specified)

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

Pin Connection Diagram