

NTE1162 Integrated Circuit TV Sound IF Amp & FM Detector

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

Supply Voltage, V_{CC}	Note 1
Supply Current (I_S), I_{CC}	50mA
Total Power Dissipation ($T_A \leq +70^\circ\text{C}$), P_T	445mW
Operating Temperature Range, T_{opr}	-20° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ\text{C}$

Note 1. Pin5 can be connected to any positive voltage by using a resistor (R_S):

Ex. $V_{CC} = 24\text{V}$, $R_S = 390\Omega$, $I_S = 30\text{mA}$
 $V_{CC} = 140\text{V}$, $R_S = 3.9\text{k}\Omega$, $I_S = 30\text{mA}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 24\text{V}$, $R_S = 390\Omega$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Circuit Current	I_{tot}	$V_{CC} = 9\text{V}$, Pin1 – Pin2, Pin9 – Pin10 Shorted	10	16	24	mA
Zener Voltage	V_{5-3}	Pin1 – Pin2, Pin9 – Pin10 Shorted	10.3	11.2	12.2	V
Input Limiting Voltage (-3dB)	$V_{i(lim)}$	$f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$, $V_i = 100\text{mV}_{rms}$	–	250	400	μV_{rms}
AM Rejection Ratio	AMR	AM = 400Hz, 30%	40	50	–	dB
Output Impedance	$R_{O(IF)}$	$f_o = 4.5\text{MHz}$, Pin9 – Pin3 Shorted	–	3.25	–	$\text{k}\Omega$
Output Capacitance	$C_{O(IF)}$		–	10	–	pF
Demodulation Output	$V_{O(AF)}$	$f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$, $V_i = 100\text{mV}_{rms}$	0.5	0.75	1.1	V_{rms}
Demodulation Signal Distortion	THD		–	0.9	2.0	%
Output Resistance	$R_{O(7)}$	$f = 400\text{Hz}$, $V_i = 100\text{mV}_{rms}$	–	7.5	–	$\text{k}\Omega$
	$R_{O(8)}$		–	300	–	Ω
Attenuation Circuit Max. Attenuation	ATT	$R_6 = \infty$	60	80	–	dB
Sound Amp Distortion	THD	$f = 400\text{Hz}$	–	1.5	–	%
Non-Distortional Max. Output	$V_{O(max)}$	$V_O = 2\text{V}_{rms}$	2.0	2.5	–	V_{rms}
Voltage Gain	$G_{V(AF)}$	$V_i = 100\text{mV}_{rms}$	17.5	20.0	23.0	dB

Pin Connection Diagram

