



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE1246 Integrated Circuit TV Sound IF, Audio Output, 2.4W

Description:

The NTE1246 is a silicon monolithic integrated circuit designed for SIF and audio sections in TV receivers. It includes a sound IF amplifier, FM detector, DC volume output control circuit, audio output amplifier (2.4W output power) and a voltage regulator.

Features:

- Reduced Number of External Components
- DC Controlled, so Shielded wire not Required, Variable Resistor may be Placed Anywhere
- Electronic Attenuation: 80dB typ.
- Peak Differential FM Detection Method, Amplifies Circuitry and Adjustment
- Wide Operating Voltage Range: 9V to 18V

Note 1. PC Board Copper Area 50 x 50mm²

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

Supply Voltage (Pin 10), V_{10}	20V
Supply Current (Pin 10), I_{10}	1A
Supply Current (Pin 5), I_5	100mA
Input Voltage, V_i	$3V_{p-p}$
Power Dissipation ($T_A = +75^\circ\text{C}$), P_{D1}	0.8W
Power Dissipation (Note 1), P_{D2}	1.4W
Operating Temperature Range, T_{opg}	-20° to $+75^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ\text{C}$

IF Stage: ($V_{CC} = 12V$, $F_o = 4.5\text{MHz}$, $R_B = 100\Omega$, $R_g = 50\Omega$, $V_{14} \geq 1.3V$, $f_M = 400\text{Hz}$, $f = \pm 25\text{kHz}$,
 $T_A = +25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Pin 5 Voltage	V_{5A}		7.5	8.0	8.5	V
	V_{5B}	$V_{CC} = 18V$, $R_B = 330\Omega$	7.5	8.0	8.5	V
Pin 10 Current	I_{10A}	No Input Signal	14	19	24	mA
	I_{10B}	$V_{CC} = 18V$, $R_B = 330\Omega$, No Input Signal	16	28	35	mA
IF Limiting Voltage	$V_{i(lim)}$	V_{OAF} ($V_i = 10_mV_{rms}$) -3dB	-	200	400	μV_{rms}
Detector Output Voltage	V_{OAF}	$V_i = 10_mV_{rms}$	300	360	-	mV_{rms}
Detector Distortion	THD_1		-	0.7	-	%
AM Rejection	AMR	AM MOD: 30%, $f_M = 400\text{Hz}$, $V_i = 10_mV_{rms}$	-40	-50	-	dB
Max. Attenuation	ATT_{max}	$V_{14} = 0V$	-60	-80	-	dB

Sound Power Stage: ($V_{CC} = 12V$, $f = 400Hz$, $R_B = 100\Omega$, $R_G = 600\Omega$, $R_L = 8\Omega$, $T_A = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Sound Stage Voltage Gain	G_{VAF}	$V_i = 30_m V_{rms}$	33	37	41	dB
Sound Output Power	P_{OA}	THD = 10%	0.9	1.2	-	W
	P_{OB}	$V_{CC} = 18V$, $R_B = 330\Omega$, THD = 10%	2.0	2.4	-	W
Sound Output Distortion	THD _{2A}	$P_O = 0.5W$	-	0.6	2.0	%
	THD _{2B}	$V_{CC} = 18V$, $R_B = 330\Omega$, $P_O = 0.5W$	-	0.5	2.0	%
Overall Sound Output Distortion	THD ₃	$P_O = 0.5W$, $V_i = 10_m V_{rms}$	-	1.5	4.0	%

Pin Impedance	fo = 4.5MHz		5.5MHz		6.0MHz		6.5MHz		Unit
	R	C	R	C	R	C	R	C	
Pin 12 IF Input	2	9.5	2	9.4	1.9	9.4	1.9	9.4	kΩ/pF
Pin 1 Detector Connect	2.4	6.3	2.4	6.2	2.4	6.1	2.4	6.1	kΩ/pF
Pin 2 Detector Connect	11.5	9	9	8.5	8.5	8.3	7.8	8.1	kΩ/pF

Pin Connection Diagram

