NTE1161
Integrated Circuit
TV Video/Sound IF Amp, Detector

Features:

- Video IF Amplifier, Synchronous Detector
- Video Differential Amplifier
- AFT Carrier Amplifier
- Sound IF Amplifier
- FM Differenial Peak Detector
- DC Sound Volume Control Circuit
- Sound Preamplifier Circuit

Absoulte Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage (Note 1), V_{CC} 14.4V

Supply Current, I_{CC} 77mA

Power Dissipation, P_D 1.11W

Operating Ambient Temperature Range, T_{opr} . . . . −20° to +70°C

Storage Temperature Range, T_{stg} . . . . −40° to +150°C

Note 1. A continuous operation voltage must be set within a proper range so that the dissipation does not exceed 1.11W.

Electrical Characteristics: (T_A = +25°c unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Total Circuit Current	I_{26}	V_{26-4} = 12V	24	30	36	mA
Video Circuit						
Max. Output Voltage Amplitude	$V_{OD-N•P}$	f_o = 58.75MHz	3.0	4.0	–	V_{P-P}
Output Signal Voltage	$V_{O-N•P}$	f_o = 58.75MHz, f_m = 400Hz, m = 40%, V_i = 20mV$_{rms}$	280	420	560	mV$_{rms}$
	V_{O-N}		5	20	80	mV$_{rms}$
Selection Circuit Capacitance	C_t	f = 58.75MHz	7	12	17	pF

Electrical Characteristics (Cont'd): $(T_A = +25°c$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
AFT Output Voltage	$V_{O(AFT)}$	$f_o = 58.75$MHz, m = 40%, $V_i = 20$mV$_{rms}$	250	350	500	mV$_{rms}$
Sound Detection Output Voltage	$V_{O(S)}$		280	420	560	mV$_{rms}$
IF Amplifier						
Input Limiting Voltage	$V_{i(lim)}$	$f_o = 4.5$MHz, $f_m = 400$Hz, $\Delta f = \pm25$kHz		250	400	µV
AM Rejection Ratio	AMR	$f_o = 4.5$MHz, $f_m = 400$Hz, m = 30% (AM), $V_i = 100$mV$_{rms}$		50		dB
Total Detection Output	V_O	$f_o = 4.5$MHz, $f_m = 400$Hz, $\Delta f = \pm25$kHz, $V_{17-9} = 0$, $V_1 = 100$mV	0.45	0.65	0.85	V$_{rms}$
Maximum Attenuation	G_R	$f_o = 4.5$MHz, $f_m = 400$Hz, $\Delta f = \pm25$kHz, $V_i = 100$V	75			dB
Half Detection Output	$V_{O/2}$		0.22	0.32	0.42	V$_{rms}$
Audio Preamplifier						
Voltage Gain	G_V	f = 400Hz, $V_O = 1$V$_{rms}$	22.7	24.0	25.6	dB
Leak Signal Output	$V_{O(leak)}$	$f_o = 4.5$MHz, $f_m = 400$Hz, $\Delta f = \pm25$kHz, $V_i = 100$V			0.8	mV$_{rms}$
Output Noise Voltage	V_{no}	$V_{in} = 0$, Pin17–16 shorted			1	mV$_{rms}$

Pin Connection Diagram

Bypass Capacitor	1	28 — Pix IF Tank Circuit
IF Input	2	27 — Pix IF tank Circuit
N.C.	3	26 — V_{CC}
GND	4	25 — N.C.
SIF Output	5	24 — Test Point
Bandpass Filter	6	23 — AFT Carrier Output
Bandpass Filter	7	22 — Sync Pos Video Out
V_{CC}	8	21 — Sync Neg Video Out
GND	9	20 — Tone Control Network
Sound IF Input	10	19 — To Audio Output
DC Bias Feedback	11	18 — Audio Preamp Input
Quadrature Coil	12	17 — DC Volume Control
Quadrature Coil	13	16 — DC Volume Control
N.C.	14	15 — Det Output

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1

15

28

1.469 (37.32)
Max

.250
(6.35)

.100 (2.54)

.122
(3.1)
Min

1.300 (33.02)

.540
(13.7)

.600 (15.24)