

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 Differential Peak Detector
- DC Sound Volume Control Circuit
- Sound Preamplifier Circuit

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ 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 $+70^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -40° to $+150^\circ\text{C}$ |

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

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

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

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------------|---------------|---|------|------|------|-------------------|
| AFT Output Voltage | $V_{O(AFT)}$ | $f_o = 58.75\text{MHz}$, $m = 40\%$, $V_i = 20\text{mV}_{rms}$ | 250 | 350 | 500 | mV_{rms} |
| Sound Detection Output Voltage | $V_{O(S)}$ | | 280 | 420 | 560 | mV_{rms} |
| IF Amplifier | | | | | | |
| Input Limiting Voltage | $V_{i(lim)}$ | $f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$ | | 250 | 400 | μV |
| AM Rejection Ratio | AMR | $f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $m = 30\%$ (AM), $V_i = 100\text{mV}_{rms}$ | | 50 | | dB |
| Total Detection Output | V_O | $f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$, $V_{17-9} = 0$, $V_1 = 100\text{mV}$ | 0.45 | 0.65 | 0.85 | V_{rms} |
| Maximum Attenuation | G_R | $f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$, $V_i = 100\text{V}$ | 75 | | | dB |
| Half Detection Output | $V_{O/2}$ | | 0.22 | 0.32 | 0.42 | V_{rms} |
| Audio Preamplifier | | | | | | |
| Voltage Gain | G_V | $f = 400\text{Hz}$, $V_O = 1\text{V}_{rms}$ | 22.7 | 24.0 | 25.6 | dB |
| Leak Signal Output | $V_{O(leak)}$ | $f_o = 4.5\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = \pm 25\text{kHz}$, $V_i = 100\text{V}$ | | | 0.8 | mV_{rms} |
| Output Noise Voltage | V_{no} | $V_{in} = 0$, Pin17-16 shorted | | | 1 | mV_{rms} |

Pin Connection Diagram



