



ELECTRONICS, INC.
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NTE1542 Integrated Circuit Color TV Video IF System

Features:

- High-gain IF amp.
- Wide AGC Range
- Excellent characteristic against noise and high AGC speed.

Functions:

- Video IF amp.
- Black and white noise canceller
- Video detector
- AFT
- Peak value IF ACC
- Video amp.
- RF AGC amp.

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

Maximum Supply Voltage, $V_{11\text{max}}$ 14V
 Flow-out Current, $I_{12\text{max}}$ 4mA
 Allowable Power Dissipation, $P_{D\text{max}}$ 850mW
 Operating Temperature Range, T_{opr} -15° to $+65^\circ\text{C}$
 Storage Temperature Range, T_{stg} -55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{11} = 12\text{V}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|----------------------------------------------|--------------------|-------------------------------------------------------------------------------------|-----|------|-----|------------------|
| Current Dissipation | I_{CC} | | - | 52 | - | mA |
| Quiescent Video Output | V_{12} | | - | 6 | - | V |
| Sync Tip Voltage | $V_{12\text{TIP}}$ | | - | 3.4 | - | V |
| Black Noise Inverting Threshold Detect Level | $V_{12\text{BTH}}$ | | - | 2.1 | - | V |
| White Noise Inverting Threshold Detect Level | $V_{12\text{WTH}}$ | | - | 6.7 | - | V |
| Max. RF AGC Voltage | $V_{4\text{H}}$ | Reverse | - | 9 | - | V |
| Min. RF AGC Voltage | $V_{4\text{L}}$ | | - | 0.1 | - | V |
| Quiescent AFT Output Voltage | V_5 | | - | 6.5 | - | V |
| Max. AFT Voltage | $V_{5\text{H}}$ | | - | 11.5 | - | V |
| Min. AFT Voltage | $V_{5\text{L}}$ | | - | 0.5 | - | V |
| Input Sensitivity | V_i | $f = 58.75\text{MHz}$, AM 40%, $f_m = 400\text{Hz}$, $V_O = 0.5V_{\text{p-p}}$ | - | 50 | - | V_{rms} |

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, $V_{11} = 12\text{V}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--------------------------|------------|-------------------------------------------------------|-----|-----|-----|-------------------|
| AGC Range | G_R | $f = 58.75\text{MHz}$, AM 40%, $f_m = 15\text{kHz}$ | - | 75 | - | dB |
| Max. Allowable Input | V_{imax} | $f = 58.75\text{MHz}$, $\Delta V_O = \pm 1\text{dB}$ | - | 300 | - | mV_{rms} |
| Output S/N | S/N | $f = 58.75\text{MHz}$, $V_i = 10\text{mV}_{rms}$ | - | 53 | - | dB |
| Frequency Characteristic | f_c | -3dB | - | 8 | - | MHz |
| Differential Gain | DG | $f = 58.75\text{MHz}$, AM 85% | - | 5 | - | % |
| Differential Phase | DP | $f = 58.75\text{MHz}$, AF 85% | - | 4 | - | deg. |
| AFT Detect Sensitivity | S_f | $f = 58.75\text{MHz}$ | - | 90 | - | mV/kHz |

Pin Connection Diagram

