



ELECTRONICS, INC.

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## **NTE7010 Integrated Circuit Single Chip NTSC Color TV Processor <sup>w</sup>/OSD Interface**

### **Description:**

The NTE7010 combines all the functions required for an NTSC color TV system in a 54-Lead DIP type package. This device includes PIF/SIF circuits, video/chroma/deflection circuits, chroma band pass filters, red and green OSD interfaces, and 1 channel audio video switches.

### **PIF Circuits**

- 3-Stage Variable-Gain PIF Amplification Stage
- High-Speed Response ACC with Dual Time Constants (Peak AGC)
- Single End AFT Output with Defeat Function
- RF Delay AGC Output (Reverse AGC)
- Sync. Negative Detected Video Output Polarity
- Internal Black/White Noise Inverter

### **SIF Circuits**

- 3-Stage Limiter Amplification Stage
- Quadrature FM Detector Circuit with Sound Mute Function
- 1 Channel External Audio Input
- High-Performance Electronic Attenuator Circuit
- Preamplifier Circuit

### **Video Circuit**

- 2<sup>nd</sup> Order-Differential-Type Picture Sharpness Circuit (DC Control)
- Contrast Control with Unicolor Function
- Brightness Control with Pedestal Clamping Circuit (Variable DC Restoration Ratio)
- External Video Input

### **Chroma Circuit**

- Internal  $\frac{1}{2} f_{sc}$  Trap
- Internal Band Pass Filter
- ACC Circuit
- Color Control Circuit
- Unicolor Control Circuit
- Color Differential Output
- Tint Control Circuit
- Adjustment-Free APC Circuit

## Deflection Circuits

- High-Performance Sync Separation Circuit
- Adjustment-Free Horizontal Oscillation Circuit
- Stable Vertical Synchronization
- Sawtooth-Type AFC (Internal Sawtooth Wave Generator)
- Horizontal Predrive Output
- X-Ray Protection Circuit
- Vertical NFB Amplification Circuit

## OSD Interface (R, G Inputs)

- Directly Driven by  $\mu$ -computer

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

|  |   |
|--|---|
| Power Supply Voltage, $V_{CC}$ .....         | 13V   |
| Internal Pin Voltage, $V_{in}$ .....         | GND $-0.3\text{V}$ to $V_{CC} +0.3\text{V}$ |
| Input Signal Amplitude, $e_{in}$ .....       | $4V_{P-P}$                                  |
| Power Dissipation, $P_D$ .....               | 1.92W                                       |
| Derate Above $25^\circ\text{C}$ .....        | $15.3\text{mW}/^\circ\text{C}$              |
| Operating Temperature Range, $T_{opr}$ ..... | $-20^\circ$ to $+65^\circ\text{C}$          |
| Storage Temperature Range, $T_{stg}$ .....   | $-55^\circ$ to $+150^\circ\text{C}$         |

Note 1. **CAUTION!** This device is easily damaged by high static voltage or electric fields so extreme care should be used when handling.



