

## NTE7167 Integrated Circuit Vertical Deflection Output Circuit

### **Description:**

The NTE7167 is a vertical deflection output integrated circuit in a 7-Lead SIP type package designed for use in high-resolution television and CRT display systems that use a bus controller system signal processing IC. It can directly drive the deflection yoke (including the required DC component) from the bus controller system signal processing IC's sawtooth waveform output. Since the NTE7167 has a maximum deflection current of  $2.2A_{P-P}$ , it is optimal for use in large aperture products, and is capable of driving 33 to 37 inch class monitors.

### **Features:**

- Low Power Dissipation due to the Provision of a Built-In Pump Circuit
- Vertical Output Circuit
- On-Chip Thermal Protection Circuit
- Good Crossover Characteristics
- Supports DC Coupling

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

|                                                                              |                        |
|------------------------------------------------------------------------------|------------------------|
| Maximum Supply Voltage, $V_{CC6}$ max                                        | 40V                    |
| Output Block Supply Voltage, $V_{CC3}$ max                                   | 85V                    |
| Deflection Output Current, $I_{2max}$                                        | -1.5 to +1.5 $A_{P-P}$ |
| Allowable Power Dissipation (With an arbitrarily large heatsink), $P_{dmax}$ | 11W                    |
| Operating Temperature Range, $T_{opr}$                                       | -20° to +85°C          |
| Storage Temperature Range, $T_{stg}$                                         | -40° to +150°C         |
| Thermal Resistance, Junction-to-Case, $R_{thJC}$                             | 4.0°C/W                |

### **Recommended Operating Conditions:** ( $T_A = +25^{\circ}C$ unless otherwise specified)

| Parameter                             | Symbol       | Test Conditions | Min | Typ | Max | Unit      |
|---------------------------------------|--------------|-----------------|-----|-----|-----|-----------|
| Recommended Supply Voltage            | $V_{CC6}$    |                 | -   | 24  | -   | V         |
| Operating Supply Voltage Range        | $V_{CC6}$ op |                 | 10  | -   | 38  | V         |
| Recommended Deflection Output Current | $I_{2P-P}$   |                 | -   | -   | 2.2 | $A_{P-P}$ |

**Electrical Characteristics:** ( $T_A = +25^{\circ}\text{C}$ ,  $V_{CC6} = 24\text{V}$  unless otherwise specified)

| Parameter                                    | Symbol     | Test Conditions      | Min | Typ | Max | Unit |
|----------------------------------------------|------------|----------------------|-----|-----|-----|------|
| Pump Circuit Charge Saturation Voltage       | $V_{S7-1}$ | $I_7 = 20\text{mA}$  | -   | -   | 1.8 | V    |
| Pump Circuit Discharge Saturation Voltage    | $V_{S6-7}$ | $I_7 = -1.1\text{A}$ | -   | -   | 3.2 | V    |
| Deflection Output Saturation Voltage (Lower) | $V_{S2-1}$ | $I_2 = 1.1\text{A}$  | -   | -   | 1.5 | V    |
| Deflection Output Saturation Voltage (Upper) | $V_{S3-2}$ | $I_2 = -1.1\text{A}$ | -   | -   | 3.5 | V    |
| Idling Current                               | $I_{DL}$   |                      | 35  | -   | 70  | mA   |
| Midpoint Voltage                             | $V_{MID}$  |                      | 11  | 12  | 13  | V    |

### Pin Connection Diagram (Front View)

