

## NTE2353

### Silicon NPN Transistor

### TV Horizontal Deflection Output w/Damper Diode

#### **Features:**

- High Speed:  $t_f = 100\text{nsec}$
- High Breakdown Voltage:  $V_{CBO} = 1500\text{V}$
- On-Chip Damper Diode

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

|                                                            |                |
|------------------------------------------------------------|----------------|
| Collector–Base Voltage, $V_{CBO}$                          | 1500V          |
| Collector–Emitter Voltage, $V_{CEO}$                       | 800V           |
| Emitter–Base Voltage, $V_{EBO}$                            | 6V             |
| Collector Current, $I_C$                                   |                |
| Continuous                                                 | 10A            |
| Peak                                                       | 30A            |
| Collector Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ | 70W            |
| Operating Junction Temperature, $T_J$                      | +150°C         |
| Storage Temperature Range, $T_{stg}$                       | –55° to +150°C |

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

| Parameter                            | Symbol         | Test Conditions                                                     | Min | Typ | Max | Unit          |
|--------------------------------------|----------------|---------------------------------------------------------------------|-----|-----|-----|---------------|
| Collector Cutoff Current             | $I_{CES}$      | $V_{CE} = 1500\text{V}$                                             | –   | –   | 1.0 | mA            |
|                                      | $I_{CBO}$      | $V_{CB} = 800\text{V}$                                              | –   | –   | 10  | $\mu\text{A}$ |
| Collector Sustain Voltage            | $V_{CEO(sus)}$ | $I_C = 100\text{mA}$ , $I_B = 0$                                    | 800 | –   | –   | V             |
| Emitter Cutoff Current               | $I_{EBO}$      | $V_{EB} = 4\text{V}$                                                | 40  | –   | 130 | mA            |
| Collector Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C = 8\text{A}$ , $I_B = 1.6\text{A}$                             | –   | –   | 5   | V             |
| Base Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_C = 8\text{A}$ , $I_B = 1.6\text{A}$                             | –   | –   | 1.5 | V             |
| DC Current Gain                      | $h_{FE1}$      | $V_{CE} = 5\text{V}$ , $I_C = 1\text{A}$                            | 8   | –   | –   |               |
|                                      | $h_{FE2}$      | $V_{CE} = 5\text{V}$ , $I_C = 8\text{A}$                            | 5   | –   | 10  |               |
| Diode Forward Voltage                | $V_F$          | $I_{EC} = 10\text{A}$                                               | –   | –   | 2.0 | V             |
| FallTime                             | $t_f$          | $I_C = 6\text{A}$ , $I_{B1} = 1.2\text{A}$ , $I_{B2} = 2.4\text{A}$ | –   | 0.1 | 0.3 | $\mu\text{s}$ |

