

## NTE2330

### Silicon NPN Transistor

### High Gain Amp <sup>w</sup>/Internal Zener Diode

#### **Features:**

- Excellent Wide Safe Operating Area
- Included Avalanche Diode
- High DC Current Gain
- High Collector Power Dissipation Capability

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

|                                                            |                 |
|------------------------------------------------------------|-----------------|
| Collector–Base Voltage, $V_{CBO}$                          | 55 (+15, –10) V |
| Collector–Emitter Voltage, $V_{CEO}$                       | 55 (+15, –10) V |
| Emitter–Base Voltage, $V_{EBO}$                            | 5V              |
| Collector Current, $I_C$                                   |                 |
| Continuous                                                 | 4A              |
| Peak                                                       | 20A             |
| Collector Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ | 80W             |
| 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–Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C = 10\text{mA}$ , $I_E = 0$             | 45   | 55   | 70   | V             |
| Collector–Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = 100\text{mA}$ , $I_B = 0$            | 45   | 55   | 70   | V             |
| Emitter Cutoff Current               | $I_{EBO}$     | $V_{EB} = 5\text{V}$ , $I_C = 0$            | –    | –    | 10   | $\mu\text{A}$ |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 5\text{V}$ , $I_C = 500\text{mA}$ | 500  | 1000 | 2500 |               |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 500\text{mA}$ , $I_B = 2\text{mA}$   | –    | –    | 2.0  | V             |
|                                      |               | $I_C = 1\text{A}$ , $I_B = 20\text{mA}$     | –    | –    | 3.0  | V             |
| Base–Emitter Voltage                 | $V_{BE}$      | $V_{CE} = 5\text{V}$ , $I_C = 500\text{mA}$ | 0.50 | 0.65 | 0.80 | V             |
| Allowable Energy                     | $E_T$         |                                             | 80   | –    | –    | W.sec         |

