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## NTE2558 Silicon NPN Transistor Darlington, High Voltage, High Speed Switch w/ Damper Diode TO3PBL Type Package

**Features:**

- High Reliability
- High Collector–Base Breakdown Voltage
- On–Chip Damper Diode

**Applications:**

- High–Voltage, High–Power Switching
- Induction Cookers

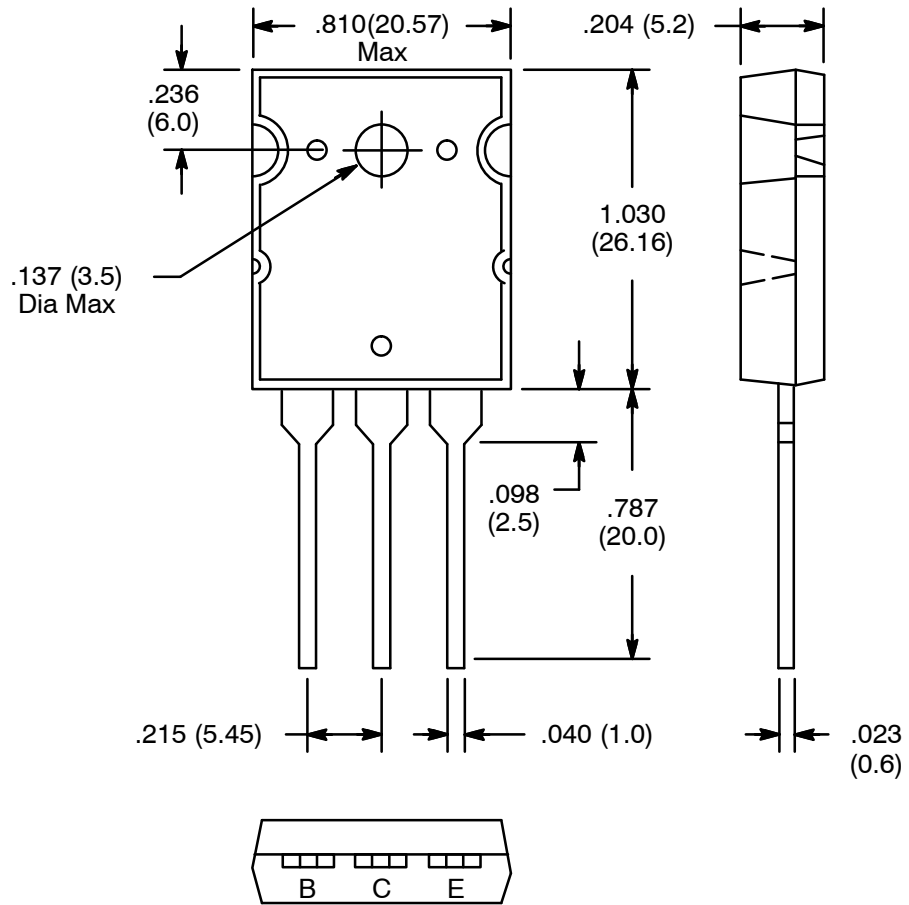
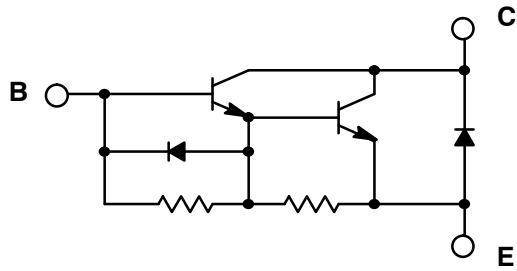
**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

|  |                |
|--|----------------|
| Collector Base Voltage, $V_{CBO}$ .....                                | 1500V          |
| Collector Emitter Voltage, $V_{CEO}$ .....                             | 800V           |
| Emitter Base Voltage, $V_{EBO}$ .....                                  | 5V             |
| Collector Current, $I_C$   |                |
| Continuous .....   | 15A            |
| Peak .....   | 30A            |
| Base Current, $I_B$ .....  | 3A             |
| Collector Power Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ ..... | 250W           |
| 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             | $I_{CBO}$      | $V_{CB} = 800V, I_E = 0$  | –        | –   | 0.1 | mA            |
| Emitter Cutoff Current               | $I_{EBO}$      | $V_{EB} = 5V, I_C = 0$  | –        | –   | 600 | mA            |
| DC Current Gain                      | $h_{FE}$       | $V_{CE} = 5V, I_C = 15A$  | 25       | –   | –   |               |
| Collector–Emitter Sustaining Voltage | $V_{CEO(sus)}$ | $I_C = 100mA$   | 800      | –   | –   | V             |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$  | $I_C = 15A, I_B = 0.75A$  | –        | –   | 3.0 | V             |
| Base–Emitter Saturation Voltage      | $V_{BE(sat)}$  | $I_C = 15A, I_B = 0.75A$  | –        | –   | 2.5 | V             |
| Collector–Base Breakdown Voltage     | $V_{(BR)CBO}$  | $I_C = 5mA, I_E = 0$  | 150<br>0 | –   | –   | V             |
| Diode Forward Voltage                | $V_F$          | $I_{EC} = 15A$  | –        | –   | 2.0 | V             |
| Fall Time                            | $t_f$          | $I_C = 15A, I_{B1} = 1A,$<br>$I_{B2} = -5A, V_{CC} = 200V,$<br>$R_L = 13.3\Omega$ | –        | –   | 2.0 | $\mu\text{s}$ |

### Schematic Diagram



**Note:** Collector connected to heat sink.