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

**Features:**

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

**Applications:**

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

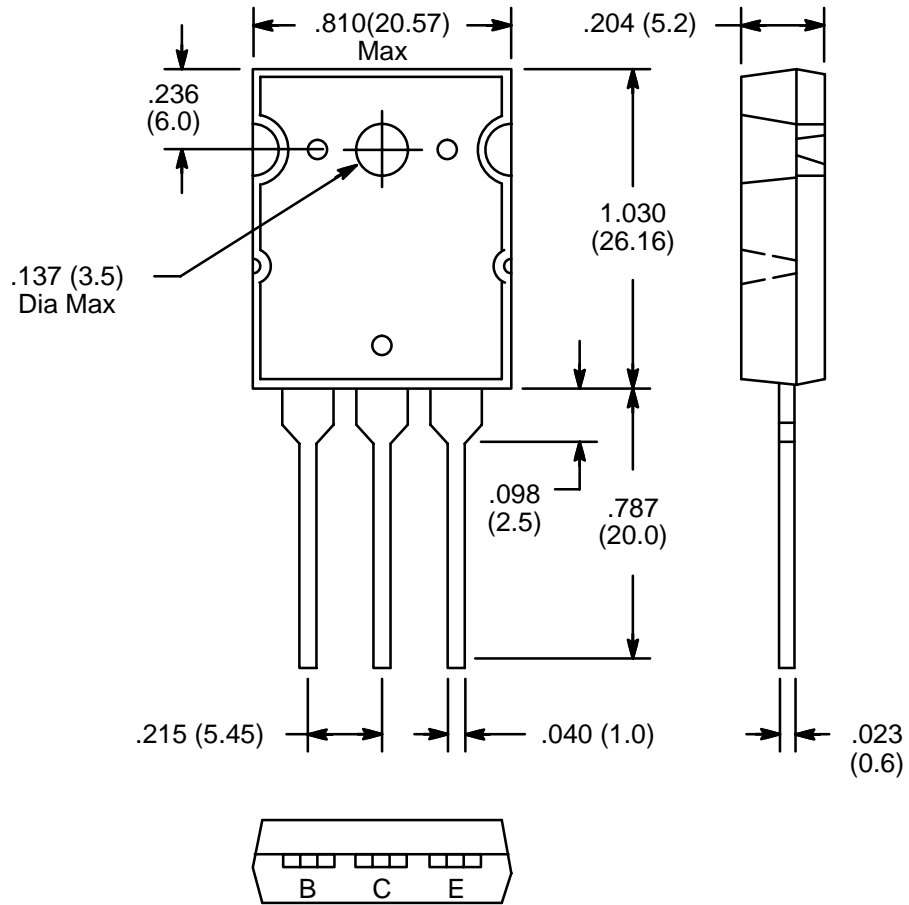
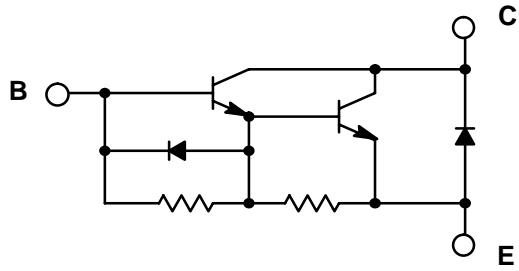
**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

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 0	–	–	V
Diode Forward Voltage	$V_F$	$I_{EC} = 15A$	–	–	2.0	V
Fall Time	$t_f$	$I_C = 15A, I_{B1} = 1A,$ $I_{B2} = -5A, V_{CC} = 200V,$ $R_L = 13.3\Omega$	–	–	2.0	$\mu\text{s}$

### Schematic Diagram



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