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# NTE2327
# Silicon NPN Transistor
# High Voltage, High Speed Switch

**Description:**

The NTE2327 is a silicon NPN transistor in a TO126 type package designed for use in converters, inverters, switching regulators, motor control systems and switching applications.

**Absolute Maximum Ratings:**

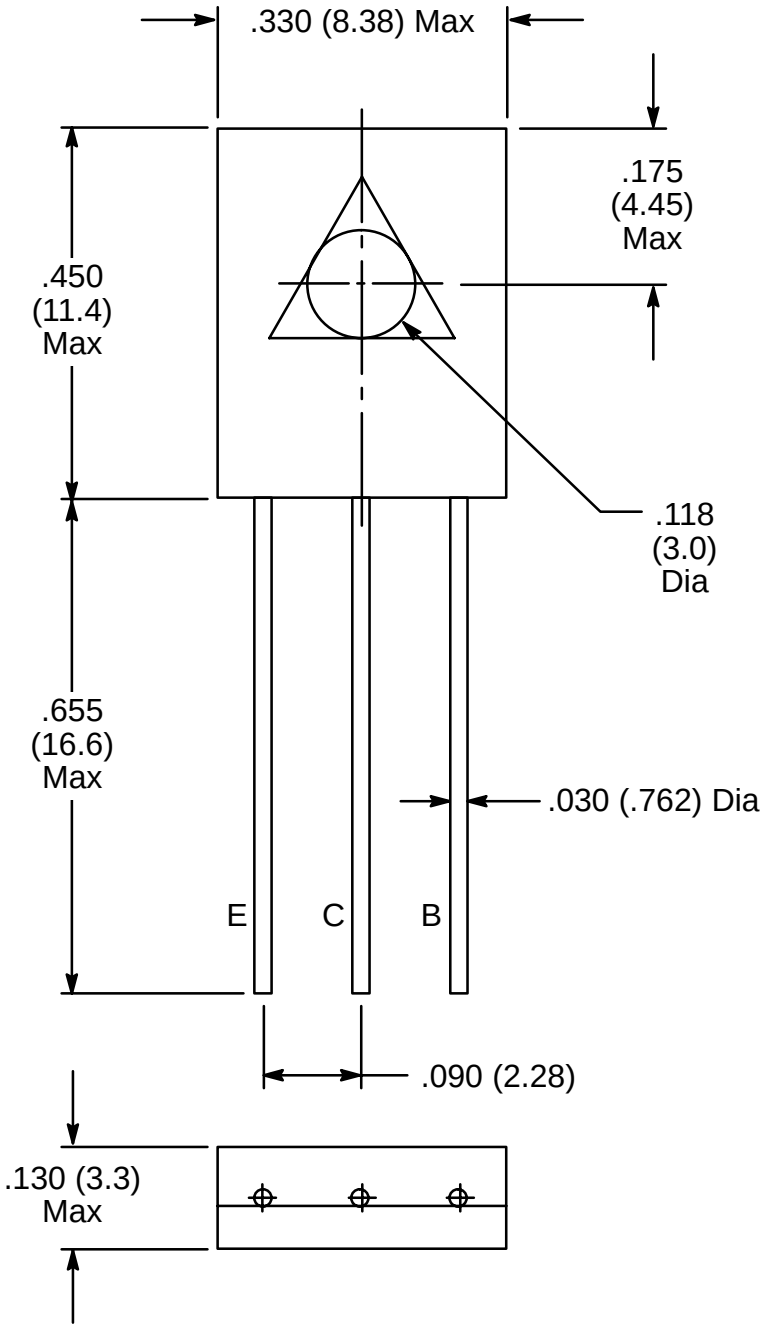
Collector–Emitter Voltage ($V_{BE}$ = 0, Peak value), $V_{CESM}$ . . . . . 1000V
Collector–Emitter Voltage (Open base), $V_{CEO}$ . . . . . 450V
Emitter–Base Voltage (Open Collector), $V_{EBO}$ . . . . . 5V
Collector Current, $I_C$
  Continuous . . . . . 0.5A
  Peak ($t_p$ = 2ms) . . . . . 1A
Base Current, $I_B$
  Continuous . . . . . 0.2A
  Peak . . . . . 0.3A
Reverse Base Current (Peak Value, Note 1), $–I_{BM}$ . . . . . 0.3A
Total Power Dissipation ($T_{MB} \le +60°C$), $P_{tot}$ . . . . . 20W
Operating Junction Temperature, $T_J$ . . . . . +150°C
Storage Temperature Range, $T_{stg}$ . . . . . –65° to +150°C
Thermal Resistance, Junction–to–Mounting Base, $R_{thJMB}$ . . . . . 4.5K/W
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ . . . . . 100K/W

Note 1. Turn–Off current.

**Electrical Characteristics:** ($T_J$ = +25°C unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector Cutoff Current (Note 2) | $I_{CES}$ | $V_{CEM}$ = 1000V, $V_{BE}$ = 0 | – | – | 100 | µA |
| | | $V_{CEM}$ = 1000V, $V_{BE}$ = 0, $T_J$ = +125°C | – | – | 1 | mA |
| Emitter Cutoff Current | $I_{EBO}$ | $I_C$ = 0, $V_{EB}$ = 5V | – | – | 1 | mA |
| DC Current Gain | $h_{FE}$ | $I_C$ –= 50mA, $V_{CE}$ = 5V | – | 50 | – | |
| Collector–Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = 0.1A, $I_B$ = 10mA | – | – | 0.8 | V |
| | | $I_C$ = 0.2A, $I_B$ = 20mA | – | – | 1.0 | V |
| Base–Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$ = 0.2A, $I_B$ = 20mA | – | – | 1.0 | V |
| Collector–Emitter Sustaining Voltage | $V_{CEO(sus)}$ | $I_C$ = 100mA, $I_{Boff}$ = 0, L = 25mH | 450 | – | – | V |
| Transition Frequency | $f_T$ | $I_C$ = 50mA, $V_{CE}$ = 10V, f = 1MHz | – | 20 | – | MHz |
| Turn–On Time | $t_{on}$ | $I_{Con}$ = 0.2A, $V_{CC}$ = 250V, $I_{Bon}$ = 20mA, $–I_{Boff}$ = 40mA | – | 0.25 | 0.50 | µs |
| Storage Time | $t_s$ | | – | 2.0 | 3.5 | µs |
| Fall Time | $t_f$ | | – | 0.4 | 1.3 | µs |

Note 2. Measured with a half sine–wave voltage.


.330 (8.38) Max
.175
(4.45)
Max
.450
(11.4)
Max
.118
(3.0)
Dia
.655
(16.6)
Max
.030 (.762) Dia
E
C
B
.090 (2.28)
.130 (3.3)
Max