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NTE2316 Silicon NPN Transistor Fast Switching Power Darlington

Description:

The NTE2317 is an NPN transistor in a monolithic Darlington configuration mounted in a TO218 type package designed for use in automotive ignition applications and inverter circuits for motor controls.

Applications:

- Automotive Ignition Applications
- Invert Circuits for Motor Controls

Absolute Maximum Ratings:

Collector–Emitter Voltage ($V_{BE} = 0$), V_{CES}	500V
Collector–Emitter Voltage ($I_B = 0$), V_{CEO}	450V
Emitter–Base Voltage ($I_C = 0$), V_{EBO}	5V
Collector Current, I_C	
Continuous	10A
Peak	15A
Continuous Base Current, I_B	5A
Total Power Dissipation ($T_C \leq +25^\circ\text{C}$), P_{tot}	105W
Maximum Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	–40° to +150°C
Thermal Resistance, Junction–to–Case, R_{thJC}	1.2°C/W

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

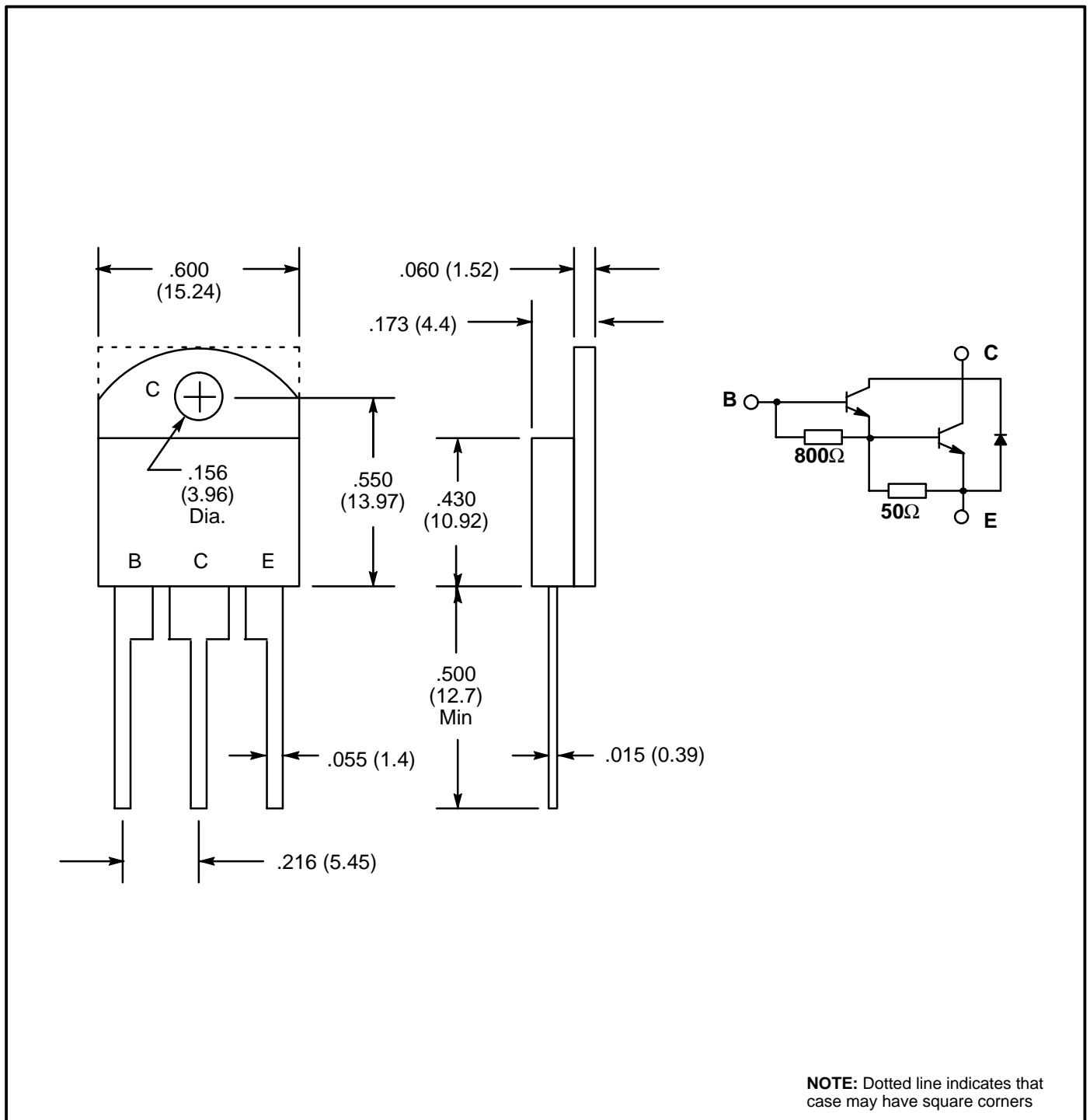
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 100\text{mA}$, $I_B = 0$, Note 1	450	–	–	V	
Collector Cutoff Current	I_{CES}	$T_J = +25^\circ\text{C}$	$V_{CE} = 500\text{V}$, $V_{BE} = 0$	–	–	1	mA
		$T_J = +125^\circ\text{C}$		–	–	5	mA
	I_{CEO}	$V_{CE} = 450\text{V}$, $I_B = 0$	–	–	1	mA	
Emitter Cutoff Current	I_{EBO}	$I_C = 0$, $V_{EB} = 5\text{V}$	–	–	20	mA	

Note 1. Pulse Test: Pulse Width = 300µs, Duty Cycle = 1.5%.

Electrical Characteristics (Cont'd): ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 50\text{mA}, \text{Note 1}$	–	–	1.8	V
		$I_C = 7\text{A}, I_B = 140\text{mA}, \text{Note 1}$	–	–	1.8	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 50\text{mA}, \text{Note 1}$	–	–	2.2	V
		$I_C = 7\text{A}, I_B = 140\text{mA}, \text{Note 1}$	–	–	2.2	V
Diode Forward Voltage	V_F	$I_F = 7\text{A}, \text{Note 1}$	–	–	2.5	V

Note 1. Pulse Test: Pulse Width = $300\mu\text{s}$, Duty Cycle = 1.5%.



NOTE: Dotted line indicates that case may have square corners