

NTE2596 Silicon NPN Transistor High Voltage, High Current Switch

Features:

- High Breakdown Voltage, High Reliability
- Fast Switching Speed
- Wide ASO Range

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

Collector-to-Base Voltage, V_{CBO}	800V
Collector-to-Emitter Voltage, V_{CEO}	500V
Emitter-to-Base Voltage, V_{EBO}	7V
Collector Current, I_C	
Continuous	50A
Peak (Note 1)	70A
Base Current, I_B	14A
Collector Dissipation, P_C	
$T_A = +25^\circ\text{C}$	3.5W
$T_C = +25^\circ\text{C}$	300W
Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-55° to +150°C

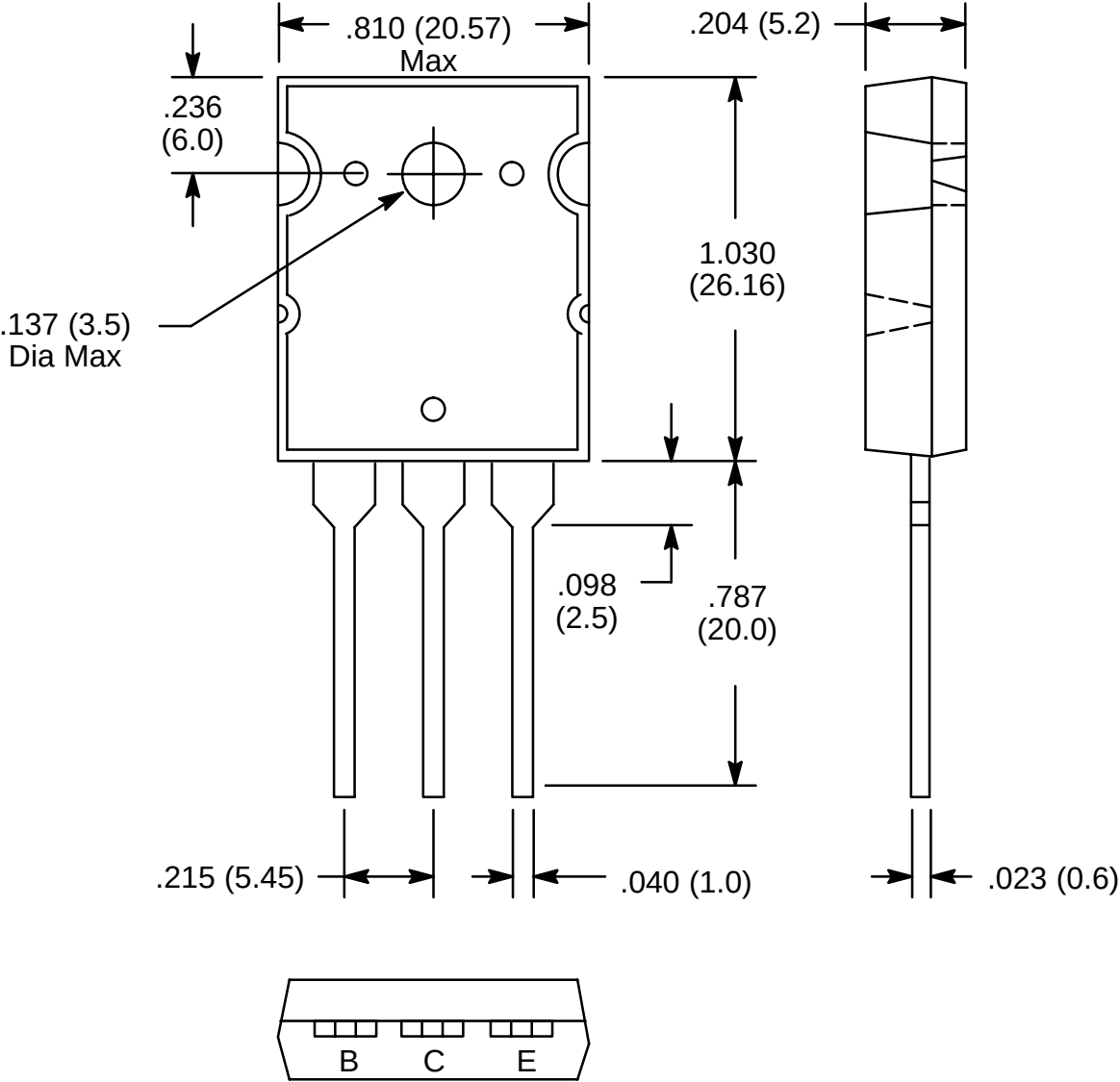
Note 1. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 10\%$.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = 500\text{V}, I_E = 0$	—	—	10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	—	—	10	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{V}, I_C = 4.8\text{A}$	20	—	50	
	$h_{FE(2)}$	$V_{CE} = 5\text{V}, I_C = 24\text{A}$	8	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 24\text{A}, I_B = 4.8\text{A}$	—	—	1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 24\text{A}, I_B = 4.8\text{A}$	—	—	1.5	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	800	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, R_{BE} = \infty$	500	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	7	–	–	V
Collector–Emitter Sustaining Voltage	$V_{CEX(sus)}$	$I_C = 15\text{A}, I_{B1} = -I_{B2} = 2\text{A},$ $L = 100\mu\text{H}, \text{Clamped}$	500	–	–	V
Turn–On Time	t_{on}	$V_{CC} = 200\text{V},$ $5I_{B1} = -2.5I_{B2} = I_C = 26\text{A},$ $R_L = 7.7\Omega$	–	–	0.5	μs
Storage Time	t_{stg}		–	–	3.0	μs
Fall Time	t_f		–	–	0.2	μs



Note: Collector connected to heat sink