NTE2594
Silicon NPN Transistor
High Voltage, High Current Switch

Features:

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

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector–Base Voltage, V_{CBO} 800V
Collector–Emitter Voltage, V_{CEO} 500V
Emitter–Base Voltage, V_{EBO} 7V
Collector Current, I_C
      Continuous 15A
      Pulsed (PW $\leq$ 300µs, Duty Cycle $\leq$ 10%) 25A
Base Current, I_B 4A
Collector Dissipation, P_C
      T_A = +25°C 3W
      T_C = +25°C 55W
Operating Junction Temperature, T_J . . . . +150°C
Storage Temperature Range, T_{stg} . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 500V, I_E = 0	–	–	10	µA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	10	µA
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 1.2A	15	–	50	
		V_{CE} = 5V, I_C = 6A	8	–	–	
Gain Bandwidth Product	f_T	V_{CE} = 10V, I_C = 1.2A	–	18	–	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, f = 1MHz	–	160	–	pF
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 6A, I_B = 1.2A	–	–	1.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 6A, I_B = 1.2A	–	–	1.5	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	800	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 5mA, R_{BE} = ∞	500	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1mA, I_C = 0	7	–	–	V

Electrical Characteristics (Cont'd): $(T_A = +25°C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Sustaining Voltage	$V_{CEX(sus)}$	$I_C = 5A$, $I_{B1} = I_{B2} = 2A$, $L = 500\mu H$, Clamped	500	–	–	V
Turn–On Time	t_{on}	$5I_{B1} = -2.5I_{B2} = I_C = 7A$, $V_{CC} = 200V$, $R_L = 28.6\Omega$	–	–	0.5	µs
Storage Time	t_{stg}		–	–	3.0	µs
Fall Time	t_f		–	–	0.3	µs