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°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°C 3.5W
       T_C = +25°C 300W

Junction Temperature, T_J . . . . +150°C

Storage Temperature Range, T_{stg} . . . . −55° to +150°C

Note 1. Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤ 10%.

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	$h_{FE(1)}$	V_{CE} = 5V, I_C = 4.8A	20	–	50	
	$h_{FE(2)}$	V_{CE} = 5V, I_C = 24A	8	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 24A, I_B = 4.8A	–	–	1.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 24A, I_B = 4.8A	–	–	1.5	V

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

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

.810 (20.57) Max

.204 (5.2)

.236 (6.0)

.137 (3.5) Dia Max

1.030 (26.16)

.098 (2.5)

.787 (20.0)

.215 (5.45)

.040 (1.0)

.023 (0.6)

B   C   E

Note: Collector connected to heat sink