ELECTRONICS, INC.
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NTE2325
Silicon NPN Transistor
High Voltage Switch

Features:
- High Reverse Voltage: V_{CBO} = 900V (Max)
- High Speed Switching: t_f = 0.7μs (Max)

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

Collector–Base Voltage, V_{CBO} 900V
Collector–Emitter Voltage, V_{CEO} 800V
Emitter–Base Voltage, V_{EBO} 7V
Collector Current, I_C 3A
Peak Collector Current (Note 1), i_{cp} 10A
Base Current, I_B 1.5A
Collector Power Dissipation (T_C = +25°C), P_C 50W
Operating 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
OFF Characteristics						
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	900	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 5mA, R_{BE} = ∞	800	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1mA, I_C = 0	7	–	–	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 800V, I_E = 0	–	–	10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	10	μA
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 3A, L = 500μH, I_B = 1A	800	–	–	V
	$V_{CEX(sus)1}$	I_C = 1A, I_{B1} = 200mA, I_{B2} = –200mA, L = 2mH, Clamped	800	–	–	V
	$V_{CEX(sus)2}$	I_C = 500mA, I_{B1} = 100mA, I_{B2} = –100mA, L = 5mH, Clamped	900	–	–	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
ON Characteristics						
DC Current Gain	h_{FE1}	V_{CE} = 5V, I_C = 200mA	10	–	–	
	h_{FE2}	V_{CE} = 5V, I_C = 1A	8	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 1.5A, I_B = 300mA	–	–	2.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 1.5A, I_B = 300mA	–	–	1.5	V
Dynamic Characteristics						
Current Gain–Bandwidth Product	f_T	V_{CE} = 10V, I_C = 200mA	–	15	–	MHz
Output Capactiance	C_{ob}	V_{CB} = 10V, f = 1MHz	–	60	–	pF
Switching Characteristics						
Turn–On Time	t_{on}	I_C = 2A, I_{B1} = 400mA, I_{B2} = 800mA, R_L = 200Ω, V_{CC} = 400V	–	1.0	–	µs
Storage Time	t_{stg}		–	3.0	–	µs
Fall Time	t_f		–	0.7	–	µs