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## NTE2579 Silicon NPN Transistor High Voltage, High Speed Switch

**Features:**

- Fast Switching Speed
- Low Saturation Voltage

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

Collector–Base Voltage, $V_{CBO}$ .....	400V
Collector–Emitter Voltage, $V_{CEO}$ .....	200V
Emitter–Base Voltage, $V_{EBO}$ .....	6V
Collector Current, $I_C$	
Continuous .....	7A
Pulse .....	12A
Base Current, $I_B$ .....	4A
Collector Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_C$ .....	50W
Operating Junction Temperature, $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	–55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 250V, I_E = 0$	–	–	100	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	–	–	100	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 1V, I_C = 1A$	15	–	–	
		$V_{CE} = 1V, I_C = 5A$	10	–	50	
Gain–Bandwidth Product	$f_T$	$V_{CE} = 10V, I_C = 500mA$	10	40	–	MHz
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5A, I_B = 500mA$	–	–	0.8	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5A, I_B = 500mA$	–	–	1.5	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1A, I_E = 0$	400	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	200	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	6	–	–	V
Fall Time	$t_f$	$V_{CC} = 50V, I_C = 5A,$ $I_{B1} = -I_{B2} = 500mA,$ Pulse Width = 20 $\mu\text{s}$ , Duty Cycle $\leq 1\%$	–	–	0.3	$\mu\text{s}$

