



NTE2570 (NPN) & NTE2571 (PNP) Silicon Complementary Transistors High Current Switch

Features:

- Low Collector–Emitter Saturation Voltage
- High Current Capacity

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

Collector–Base Voltage, V_{CBO}	90V
Collector–Emitter Voltage, V_{CEO}	80V
Emitter–Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	7A
Peak	12A
Collector Power Dissipation, P_C	
$T_A = +25^\circ\text{C}$	2W
$T_C = +25^\circ\text{C}$	30W
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 Cut–Off Current	I_{CBO}	$V_{CB} = 80\text{V}, I_E = 0$	–	–	0.1	mA
Emitter Cut–Off Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	–	–	3.0	mA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 1\text{A}$	100	–	280	
		$V_{CE} = 2\text{V}, I_C = 4\text{A}$	30	–	–	
Gain–Bandwidth Product	f_T	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	–	20	–	MHz
Collector–Emitter Saturation Voltage NTE2570	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 10\text{mA}$	–	–	0.4	V
NTE2571			–	–	0.5	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	90	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	80	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_C = 1\text{mA}, I_C = 0$	6	–	–	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Time NTE2570	t_{on}	$V_{CC} = 50V, V_{BE} = -5V,$ $10I_{B1} = -10I_{B2} = I_C = 2A,$ Pulse Width = $20\mu s$ Duty Cycle $\leq 1\%$	—	0.1	—	μs
NTE2571			—	0.2	—	μs
Storage Time NTE2570	t_{stg}		—	1.6	—	μs
NTE2571			—	0.7	—	μs
Fall Time NTE2570	t_f		—	0.4	—	μs
NTE2571			—	0.2	—	μs

Note 1. For NTE2571, the polarity is reversed.

