



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## NTE2570 (NPN) & NTE2571 (PNP) Silicon Complementary Transistors High Current Switch TO-220 Full Pack

**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, $T_J$ .....	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$

**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	$t_{on}$	$V_{CC} = 50\text{V}, V_{BE} = -5\text{V},$ $10I_{B1} = -10I_{B2} = I_C = 2\text{A},$ Pulse Width = $20\mu\text{s}$ Duty Cycle $\leq 1\%$	-	0.1	-	$\mu\text{s}$
NTE2571			-	0.2	-	$\mu\text{s}$
Storage Time NTE2570	$t_{stg}$		-	1.6	-	$\mu\text{s}$
NTE2571			-	0.7	-	$\mu\text{s}$
Fall Time NTE2570	$t_f$		-	0.4	-	$\mu\text{s}$
NTE2571			-	0.2	-	$\mu\text{s}$

Note 1. For NTE2571, the polarity is reversed.

