

NTE2526 (NPN) & NTE2527 (PNP) Silicon Complementary Transistors High Current Switch

Features:

- Low Collector–Emitter Saturation Voltage
- High Current and High f_T
- Excellent Linearity of h_{FE}
- Fast Switching Time

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

Collector Base Voltage, V_{CBO}	120V
Collector Emitter Voltage, V_{CEO}	100V
Emitter Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	4A
Pulse	8A
Collector Power Dissipation, P_C	
$T_A = +25^\circ\text{C}$	1W
$T_C = +25^\circ\text{C}$	20W
Operating Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° 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 Cutoff Current	I_{CBO}	$V_{CB} = 100\text{V}, I_E = 0$	–	–	1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	–	–	1.0	μA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 500\text{mA}$	140	–	400	
		$V_{CE} = 5\text{V}, I_C = 3\text{A}$	40	–	–	
Gain–Bandwidth Product NTE2526	f_T	$V_{CE} = 10\text{V}, I_C = 500\text{mA}$	–	180	–	MHz
NTE2527			–	130	–	MHz
Output Capacitance NTE2527	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	–	40	–	pF
NTE2526			–	65	–	pF

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage NTE2526	$V_{CE(sat)}$	$I_C = 2A, I_B = 200mA$	–	150	400	mV
NTE2527			–	200	500	mV
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 200mA$	–	0.9	1.2	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	120	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	100	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	6	–	–	V
Turn–On Time	t_{on}	$V_{CC} = 50V, V_{BE} = -5V,$ $10I_{B1} = -10I_{B2} = I_C = 2A,$ Pulse Width = $20\mu s,$ Duty Cycle $\leq 1\%$, Note 1	–	100	–	ns
Storage Time NTE2526	t_{stg}		–	900	–	ns
NTE2527			–	800	–	ns
Fall Time	t_f			50		ns

Note 1. For NTE2527, the polarity is reversed.

