

NTE2534 (NPN) & NTE2535 (PNP) Silicon Complementary Transistors High Current Switch

Features:

- Low Collector Emitter Saturation Voltage

Applications:

- Relay Drivers
- High Speed Inverters
- Converters

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	12A
Pulse	20A
Collector Power Dissipation ($T_C = +25^\circ\text{C}$), P_C	1W
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}	$V_{CB} = 80V, I_E = 0$	-	-	0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	-	-	0.1	mA
DC Current Gain	h_{FE1}	$V_{CE} = 2V, I_C = 1A$	100	-	280	
	h_{FE2}	$V_{CE} = 2V, I_C = 6A$	30	-	-	
Gain-Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 1A$	-	20	-	MHz
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 6A, I_B = 600mA$	-	-	0.5	V
			-	-	0.4	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
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	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	6	–	–	V
Turn–On Time	t_{on}	$V_{CC} = 50\text{V},$ $10I_{B1} = -10I_{B2} = I_C = 5\text{A},$ Pulse Width = $20\mu\text{s},$ Duty Cycle $\leq 1\%$, Note 1	–	0.2	–	μs
Storage Time NTE2534	t_{stg}		–	0.7	–	μs
NTE2535			–	1.7	–	μs
Fall Time NTE2534	t_f		–	0.1	–	μs
NTE2535		–	0.2	–	μs	

Note 1. For NTE2535, the polarity is reversed.

