



ELECTRONICS, INC.
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NTE2545 (NPN) & NTE2546 (PNP) Silicon Complementary Transistors Darlington, High Speed Driver

Features:

- High Speed Switching
- Wide ASO Range
- High Gain Bandwidth Product

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

Collector Base Voltage, V_{CBO}	70V
Collector Emitter Voltage, V_{CEO}	60V
Emitter Base Voltage, V_{EBO}	5V
Collector Current, I_C	
Continuous	5A
Peak	8A
Collector Power Dissipation, P_C	
$T_A = +25^\circ\text{C}$	1.75W
$T_C = +25^\circ\text{C}$	30W
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}	$V_{CB} = 40\text{V}, I_E = 0$	-	-	0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	3.0	mA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 2.5\text{A}$	2000	5000	-	
Gain-Bandwidth Product	f_T	$V_{CE} = 5\text{V}, I_C = 2.5\text{A}$	-	200	-	MHz
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2.5\text{A}, I_B = 5\text{mA}$	-	0.9	-	V
NTE2545			-	1.0	1.5	V
NTE2546						
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2.5\text{A}, I_B = 5\text{mA}$	-	-	2.0	V
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 5\text{mA}, I_E = 0$	70	-	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50\text{mA}, R_{BE} = \infty$	60	-	-	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	t_{on}	$V_{CC} = 20\text{V}$, $V_{BE} = -5\text{V}$, $500I_{B1} = -500I_{B2} = I_C = 2\text{A}$, Pulse Width = $50\mu\text{s}$, Duty Cycle $\leq 1\%$, Note 1	-	0.3	-	μs
Storage Time NTE2545	t_{stg}		-	1.2	-	μs
NTE2546			-	1.3	-	μs
Fall Time	t_f		-	0.2	-	μs

Note 1. For NTE2546, the polarity is reversed.

