



ELECTRONICS, INC.  
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## NTE2551 (NPN) & NTE2552 (PNP) Silicon Complementary Transistors Darlington Driver, Switch TO-220 Full Pack

**Features:**

- High DC Current Gain
- Low Saturation Voltage
- High Current Capacity and Wide ASO

**Applications:**

- Motor Drivers
- Printer Hammer Drivers
- Relay Drivers
- Voltage Regulator Control

**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, $V_{EBO}$ .....	6V
Collector Current, $I_C$	
Continuous .....	10A
Peak .....	15A
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 $+150^\circ\text{C}$

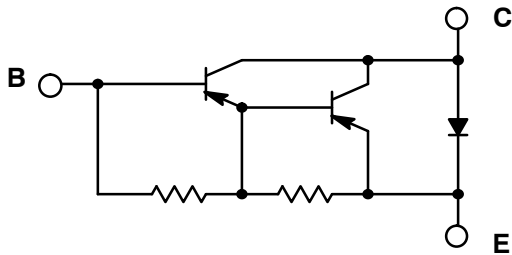
**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB} = 40\text{V}, I_E = 0$	-	-	0.1	mA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$	-	-	3.0	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 2\text{V}, I_C = 5\text{mA}$	2000	5000	-	
Gain-Bandwidth Product	$f_T$	$V_{CE} = 5\text{V}, I_C = 5\text{mA}$	-	20	-	MHz
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{mA}, I_B = 10\text{mA}$	-	0.9	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{mA}, I_B = 10\text{mA}$	-	-	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

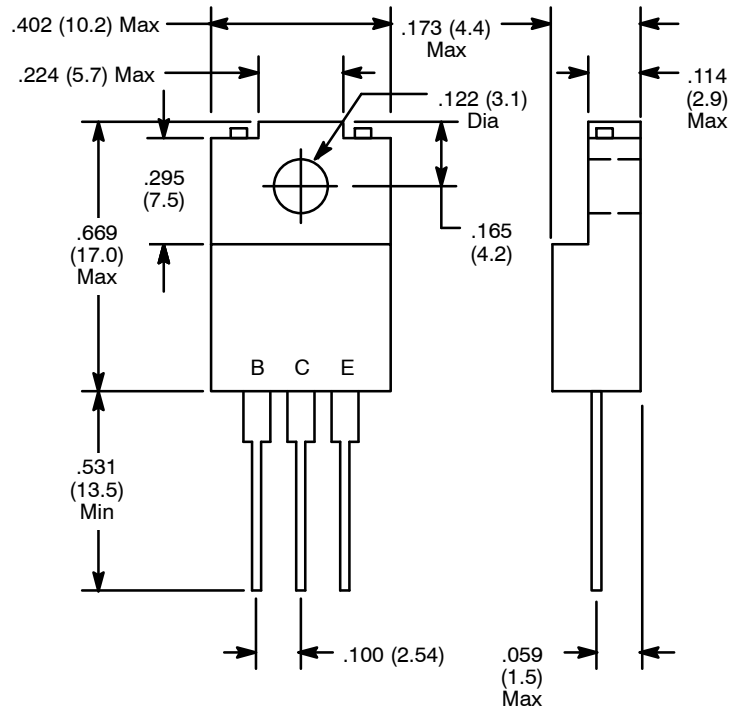
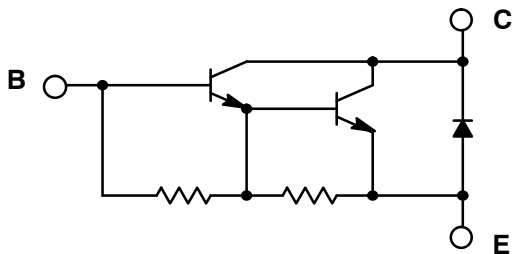
**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Switching Characteristics</b>						
Turn-On Time NTE2551	$t_{on}$	$V_{CC} = 20\text{V}, I_C = 5\text{A},$ $I_{B1} = -I_{B2} = 500\text{mA},$ Pulse Width = $50\mu\text{s}$ Duty Cycle $\leq 1\%$	-	0.6	-	$\mu\text{s}$
NTE2552			-	0.5	-	$\mu\text{s}$
Storage Time NTE2551	$t_{stg}$		-	3.0	-	$\mu\text{s}$
NTE2552			-	1.5	-	$\mu\text{s}$
Fall Time NTE2551	$t_f$		-	1.8	-	$\mu\text{s}$
NTE2552			-	1.7	-	$\mu\text{s}$

**NTE2551**  
(NPN)



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**NOTE:** Tab is isolated