



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089

## NTE2551 (NPN) & NTE2552 (PNP) Silicon Complementary Transistors Darlington Driver, Switch

### Features:

- High DC Current Gain
- Low Saturation Voltage
- High Current Capacity and Wide ASO
- Isolated TO220 Type Package

### 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 $+150^\circ\text{C}$

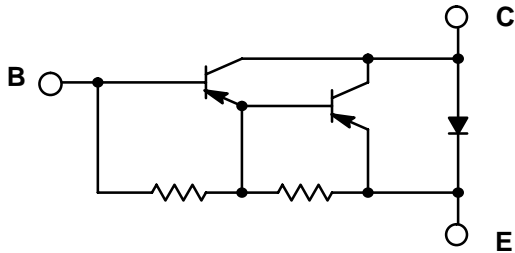
### Electrical Characteristics: ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

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	$h_{FE(1)}$	$V_{CE} = 2\text{V}, I_C = 5\text{A}$	2000	500 0	–	
Gain–Bandwidth Product	$f_T$	$V_{CE} = 5\text{V}, I_C = 5\text{A}$	–	20	–	MHz
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 10\text{mA}$	–	0.9	1.5	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5\text{A}, I_B = 10\text{mA}$	–	–	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

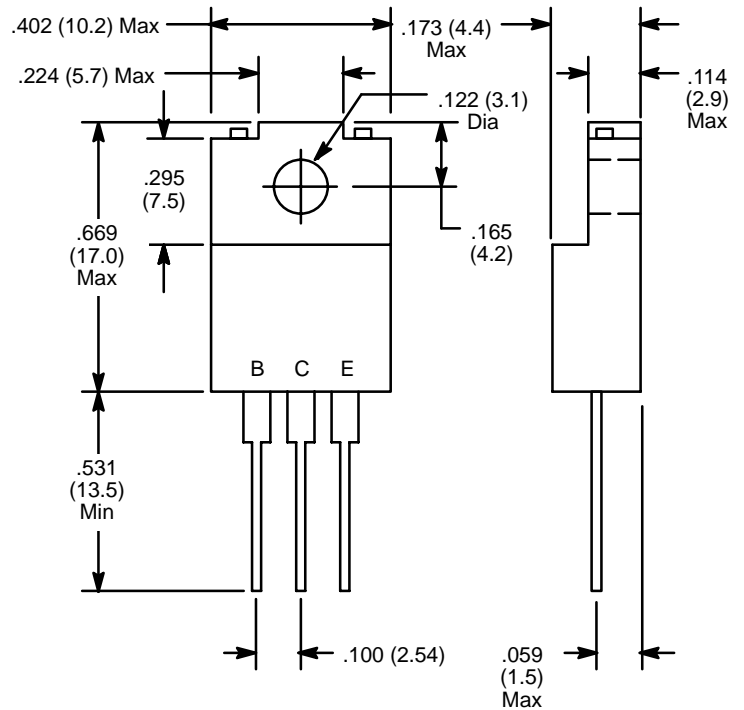
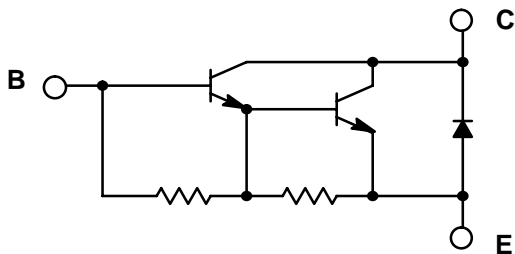
**Electrical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

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	-	$\mu\text{s}$

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**NOTE:** Tab is isolated