



ELECTRONICS, INC.
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NTE2553 Silicon NPN Transistor Darlington, Motor Driver, Switch

Features:

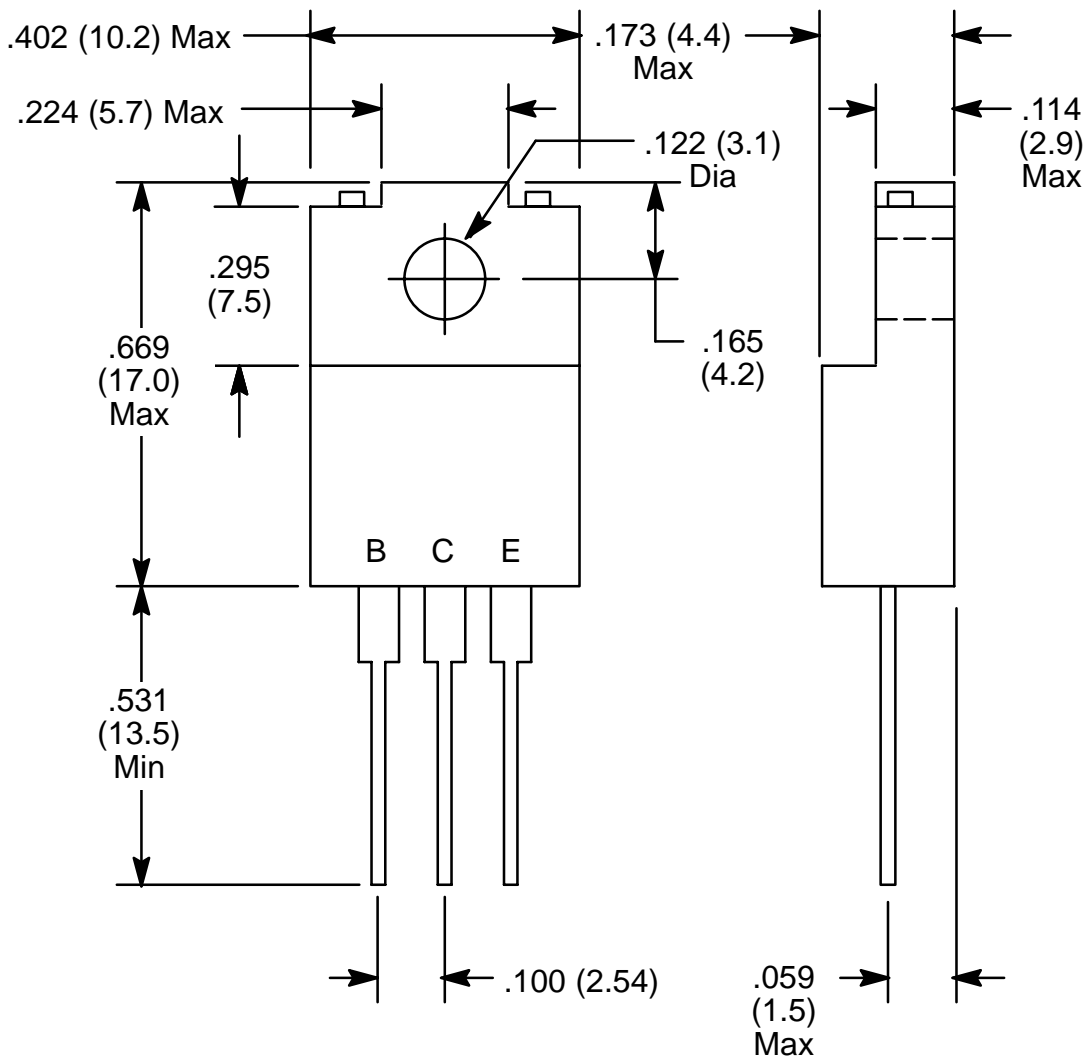
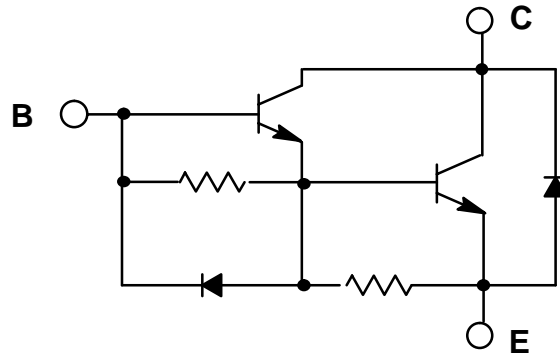
- High DC Current Gain
- High Breakdown Voltage
- Isolated TO220 Type Package

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

Collector–Base Voltage, V_{CBO}	300V
Collector–Emitter Voltage, V_{CEO}	200V
Emitter–Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	±12A
Peak	±18A
Base Current, I_B	1A
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°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 Cut–Off Current	I_{CBO}	$V_{CB} = 300V, I_E = 0$	–	–	100	μA
Emitter Cut–Off Current	I_{EBO}	$V_{EB} = 6V, I_C = 0$	50	–	150	mA
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	300	–	–	V
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	$I_C = 250mA, L = 40mH$	200	–	–	V
DC Current Gain	h_{FE}	$V_{CE} = 2V, I_C = 5A$	500	–	5000	
		$V_{CE} = 2V, I_C = 10A$	100	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10A, I_B = 100mA$	–	–	2.0	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10A, I_B = 100mA$	–	–	2.3	V
Emitter–Collector Forward Voltage	V_{ECF}	$I_E = 10A, I_B = 0$	–	1.5	2.0	V
Transition Frequency	f_T	$V_{CE} = 2V, I_C = 1A$	–	40	–	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	–	200	–	pF
Turn–On Time	t_{on}	$V_{CC} = 100V,$ $I_{B1} = -I_{B2} = 100mA$	–	–	1.0	μs
Storage Time	t_{stg}		–	–	12	μs
Fall Time	t_f		–	–	2.0	μs



NOTE: Tab is isolated