

NTE2562 (NPN) & NTE2563 (PNP) Silicon Complementary Transistors High Current Switch

Description:

The NTE2562 (NPN) and NTE2563 (PNP) are silicon complementary transistors in a TO220 type package designed for use as a high current switch. Typical applications include relay drivers, high-speed inverters, converters, etc.

Features:

- Low Collector-Emitter Saturation Voltage
- High Current Capacity

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

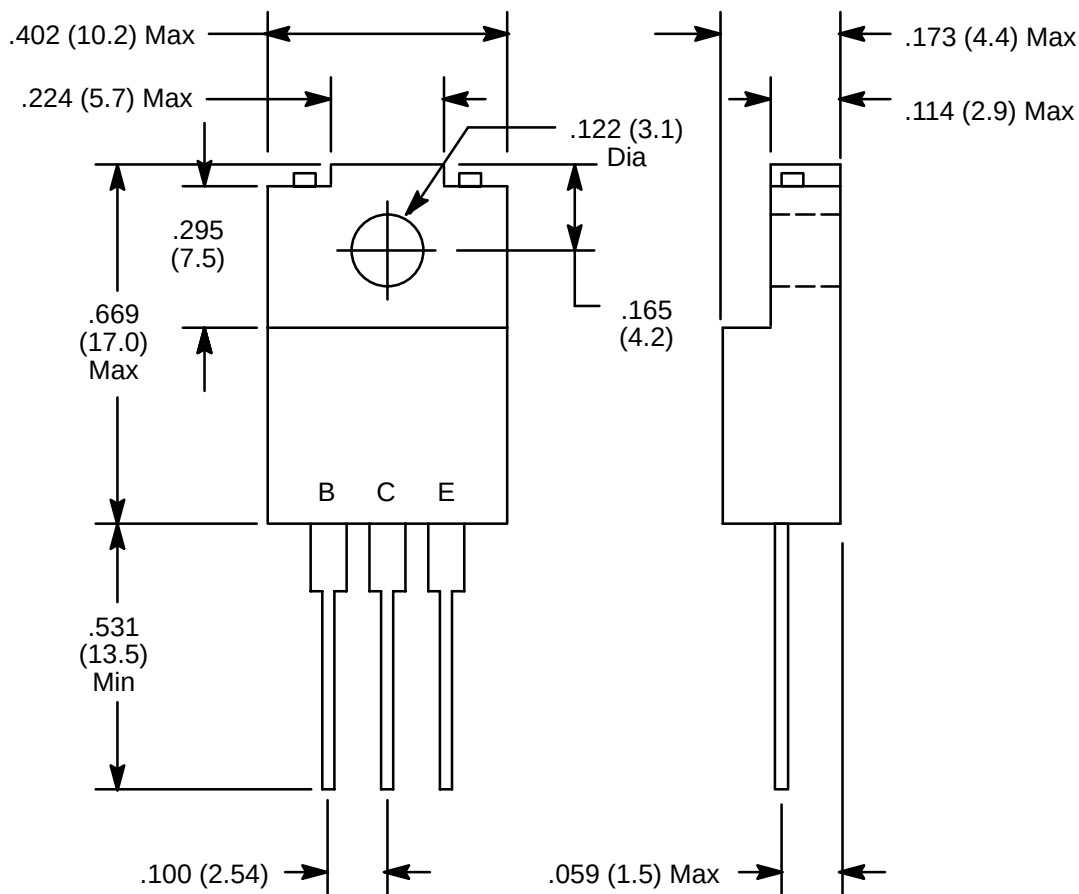
Collector-Base Voltage, V_{CBO}	60V
Collector-Emitter Voltage, V_{CEO}	30V
Emitter-Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	12A
Pulse	20A
Collector Dissipation, P_C	
$T_A = +25^\circ\text{C}$	2W
$T_C = +25^\circ\text{C}$	25W
Operating Junction Temperature, T_J	+150°C
Storage Temperature 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}	$V_{CB} = 40V, I_E = 0$	—	—	0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	—	—	0.1	mA
DC Current Gain	h_{FE}	$V_{CE} = 2V, I_C = 1A$	100	—	200	
		$V_{CE} = 2V, I_C = 6A$	30	—	—	
Current Gain-Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 1A$	—	120	—	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage NTE2562	$V_{CE(sat)}$	$I_C = 5A, I_B = 0.25A$	–	–	0.4	V
NTE2563			–	–	0.5	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	60	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	30	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	6	–	–	V
Turn–On Time NTE2562	t_{on}	$V_{CC} = 10V, V_{BE} = -5V,$ $10I_{B1} = -10I_{B2} = I_C = 5A,$ Pulse Width = $20\mu s,$ Duty Cycle = 1%	–	0.2	–	μs
NTE2563			–	0.1	–	μs
Storage Time NTE2562	t_{stg}		–	0.5	–	μs
NTE2563			–	0.3	–	μs
Fall Time	t_f		–	0.03	–	μs



NOTE: Tab is isolated