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

Description:

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

Features:

● Low Collector–Emitter Saturation Voltage
● High Current Capacity

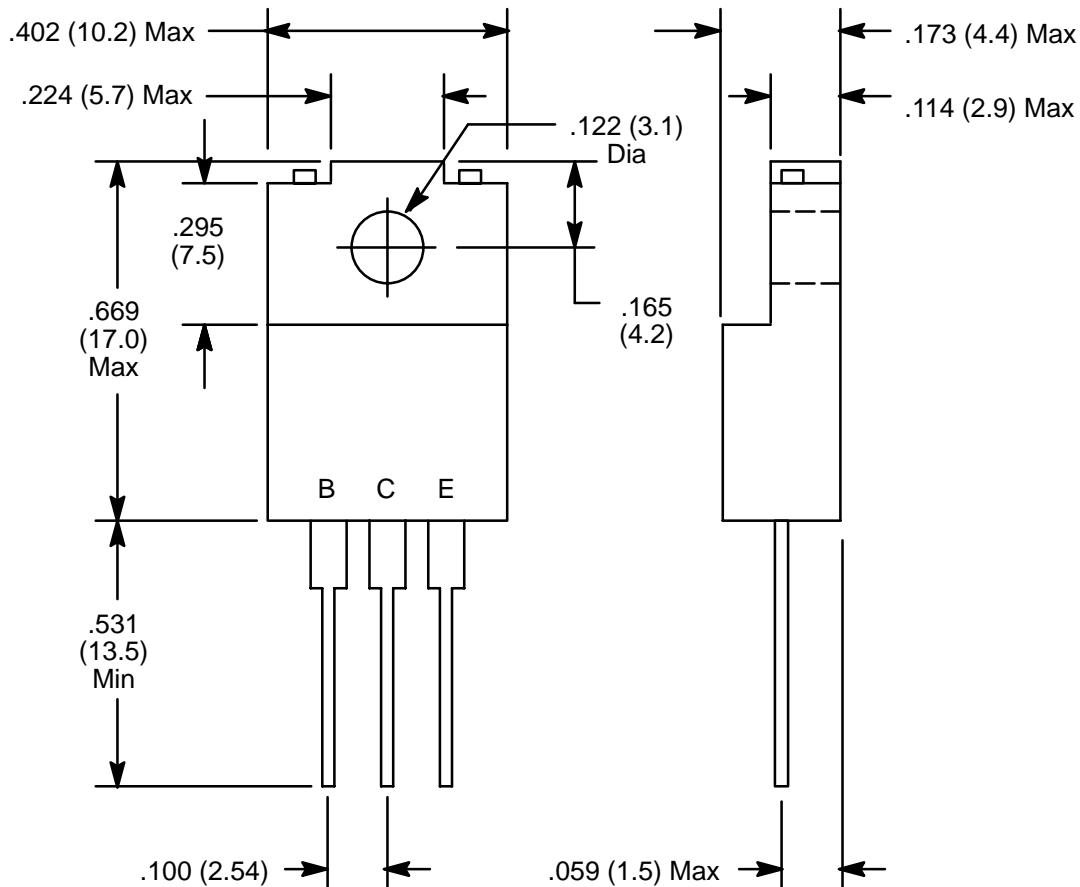## Absolute Maximum Ratings: $(T_A = +25°C$ unless otherwise specified)

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
      $T_A = +25°C$ 2W
      $T_C = +25°C$ 25W
Operating Junction Temperature, T_J .... +150°C
Storage Temperature Range, T_{stg} .... −55° to +150°C

Electrical Characteristics: $(T_A = +25°C$ 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): $(T_A = +25°C$ 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 = 20µs, 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

.402 (10.2) Max

.224 (5.7) Max

.122 (3.1) Dia

.295 (7.5)

.669 (17.0) Max

.165 (4.2)

.173 (4.4) Max

.114 (2.9) Max

B   C   E

.531 (13.5) Min

.100 (2.54)

.059 (1.5) Max

NOTE: Tab is isolated