



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE2562 (NPN) & NTE2563 (PNP) Silicon Complementary Transistors High Current Switch TO-220 Full Pack

Description:

The NTE2562 (NPN) and NTE2563 (PNP) are silicon complementary transistors is a TO-220 full pack 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: ($T_A = +25^\circ\text{C}$ 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	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° 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 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-Emmitter Saturation Voltage NTE2562	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 0.25\text{A}$	-	-	0.4	V
NTE2563			-	-	0.5	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	60	-	-	V
Collector-Emmitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	30	-	-	V
Emmitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	6	-	-	V
Turn-On Time NTE2562	t_{on}	$V_{CC} = 10\text{V}, V_{BE} = -5\text{V},$ $10I_{B1} = -10I_{B2} = I_C = 5\text{A},$ Pulse Width = $20\mu\text{s},$ 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

