

NTE2564 (NPN) & NTE2565 (PNP) Complementary Silicon Transistors High Current Switch

Features:

- Low Collector Emitter Saturation Voltage
- High Current Capacity

Applications:

- Relay Drivers
- High Speed Inverters
- Converters

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	8A
Peak	15A
Collector Power Dissipation, P_C	
$T_A = +25^\circ\text{C}$	1.65W
$T_C = +25^\circ\text{C}$	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 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	—	280	
		$V_{CE} = 2V, I_C = 4A$	30	—	—	
Gain-Bandwidth Product	f_T	$V_{CE} = 5V, I_C = 1A$	—	120	—	MHz
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3A, I_B = 150mA$	—	—	0.4	V
NTE2564			—	—	0.5	V
NTE2565			—	—	0.5	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	60	—	—	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	30	—	—	V
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	6	—	—	V
Turn-On Time	t_{on}	$V_{CC} = 10\text{V}, V_{BE} = -5\text{V},$ $20I_{B1} = -20I_{B2} = I_C = 4\text{A},$ Pulse Width = $20\mu\text{s},$ Duty Cycle $\leq 1\%$, Note 1	—	0.1	—	μs
Storage Time NTE2564	t_{stg}		—	0.5	—	μs
NTE2565			—	0.2	—	μs
Fall Time	t_f		—	1.6	—	μs

Note 1. For NTE2565, the polarity is reversed.

