

## 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, $V_{CB0}$ .....	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	$I_{CB0}$	$V_{CB} = 40V, I_E = 0$	-	-	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
			-	-	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	–	$\mu\text{s}$
Storage Time NTE2564	$t_{stg}$		–	0.5	–	$\mu\text{s}$
NTE2565			–	0.2	–	$\mu\text{s}$
Fall Time	$t_f$		–	1.6	–	$\mu\text{s}$

Note 1. For NTE2565, the polarity is reversed.

