

## NTE2517 (NPN) & NTE2518 (PNP) Silicon Complementary Transistors High Current Switch

**Features:**

- Low Saturation Voltage
- High Current Capacity and Wide ASO

**Applications:**

- Voltage Regulators
- Relay Drivers
- Lamp Drivers

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

Collector to Base Voltage, $V_{CBO}$ .....	60V
Collector to Emitter Voltage, $V_{CEO}$ .....	50V
Emitter to Base Voltage, $V_{EBO}$ .....	6V
Collector Current, $I_C$	
Continuous .....	2.5A
Peak .....	5A
Collector Dissipation, $P_C$	
$T_A = +25^\circ\text{C}$ .....	1.5W
$T_C = +25^\circ\text{C}$ .....	10W
Operating Junction Temperature, $T_J$ .....	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ 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	$I_{CBO}$	$V_{CB} = 50\text{V}, I_E = 0$	-	-	100	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$	-	-	100	nA
DC Current Gain	h <sub>FE</sub>	$V_{CE} = 2\text{V}, I_C = 100\text{mA}$	140	-	400	
		$V_{CE} = 2\text{V}, I_C = 2\text{A}$	35	-	-	
Gain Bandwidth Product	f <sub>T</sub>	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	-	140	-	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Capacitance NTE2517	$C_{ob}$	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	-	10	-	pF
NTE2518			-	25	-	pF
Collector to Emitter Saturation Voltage NTE2517	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 50\text{mA}$	-	110	300	mV
NTE2518			-	250	500	mV
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}, I_B = 50\text{mA}$	-	0.85	1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60	-	-	V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	50	-	-	V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6	-	-	V
Turn-On Time	$t_{on}$	$I_C = 10\text{A}, I_{B1} = 10\text{A}, I_{B2} = 1\text{A}$	-	35	-	ns
Storage Time NTE2517	$t_{stg}$		-	550	-	ns
NTE2518			-	350	-	ns
Fall Time	$t_f$		-	30	-	ns

