

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° 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 _{FE}	$V_{CE} = 2\text{V}, I_C = 100\text{mA}$	140	-	400	
		$V_{CE} = 2\text{V}, I_C = 2\text{A}$	35	-	-	
Gain Bandwidth Product	f _T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	-	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

