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NTE2519 (NPN) & NTE2520 (PNP) Silicon Complementary Transistors High Voltage Driver

Features:

- High Breakdown Voltage
- Large Current Capacity
- Isolated Package

Applications:

- Color TV Audio Output
- Converters
- Inverters

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

Collector to Base Voltage, V_{CBO}	180V
Collector to Emitter Voltage, V_{CEO}	160V
Emitter to Base Voltage, V_{EBO}	6V
Collector Current, I_C	
Continuous	1.5A
Peak	2.5A
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°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}	$V_{CB} = 120V, I_E = 0$	-	-	1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	-	-	1.0	μA
DC Current Gain	h _{FE}	$V_{CE} = 5V, I_C = 100mA$	140	-	400	
		$V_{CE} = 5V, I_C = 10mA$	90	-	-	
Gain Bandwidth Product	f _T	$V_{CE} = 10V, I_C = 50mA$	-	120	-	MHz

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Capacitance NTE2519	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	-	14	-	μF
NTE2520			-	22	-	μF
Collector to Emitter Saturation Voltage NTE2519	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	0.13	0.45	V
NTE2520			-	0.2	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	0.85	1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	180	-	-	V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	160	-	-	V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6	-	-	V
Rise Time	t_{on}	$I_C = 10\text{A}, I_{B1} = 10\text{A}, I_{B2} = 700\text{mA}, \text{Note 1}$	-	0.04	-	μs
Storage Time NTE2519	t_{stg}		-	1.2	-	μs
NTE2520			-	0.7	-	μs
Fall Time NTE2519	t_f		-	0.08	-	μs
NTE2520		-	0.04	-	μs	

Note 1. Pulse Width = $20\mu\text{s}$, Duty Cycle $\leq 1\%$.

