



ELECTRONICS, INC.
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NTE2568 (NPN) & NTE2569 (PNP) Silicon Complementary Transistors High Current Switch TO-220 Full Pack

Features:

- Low Saturation Voltage
- Fast Switching Speed

Applications:

- Car-Use Inductance Drivers, Lamp Drivers
- Inverter Drivers, Converters (Strobes, Flashes, FLT Lighting Circuits)
- Power Amplifiers (High-Power Car Stereos, Motor Control)
- High-Speed Switching (Switching Regulators, Drivers)

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

Collector-Base Voltage, V_{CB0}	80V
Collector-Emitter Voltage, V_{CEO}	60V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	
Continuous	10A
Peak	12A
Collector Power Dissipation, P_C	
$T_C = +25^\circ\text{C}$	30W
$T_A = +25^\circ\text{C}$	2W
Operating Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ\text{C}$

Electrical Characteristics: ($T_C = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CB0}	$V_{CB} = 40\text{V}, I_E = 0$	-	-	0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	-		0.1	mA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 1\text{A}$	70	-	280	
Gain Bandwidth Product	f_T	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	-	100	-	MHz
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{A}, I_B = 0.25\text{A}$	-	-	0.4	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1\text{mA}, I_E = 0$	80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1\text{mA}, I_C = 0$	5	-	-	V
Turn-On Time	t_{on}	$I_C = 5\text{A}, I_{B1} = 20\text{A},$ $I_{B2} = -20\text{A}, V_{CC} = 20\text{V},$ Pulse Width = $20\mu\text{s},$ Duty Cycle $\leq 1\%$	-	0.1	-	μs
Storage Time	t_{stg}		-	0.5	-	μs
Collector Current Fall Time	t_f		-	0.1	-	μs

