ELECTRONICS, INC.
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NTE2528 (NPN) & NTE2529 (PNP)
Silicon Complementary Transistors
High Voltage Switch
TO251

Features:
- High Voltage and High Current Capacity
- Fast Switching Time
- TO251 Type Package

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector Base Voltage, V_{CBO} 180V
Collector Emitter Voltage, V_{CEO} 160V
Emitter Base Voltage, V_{EBO} 6V
Collector Current, I_C
- Continuous 1.5A
- Pulse 2.5A

Collector Power Dissipation, P_C
- T_A = +25°C 1W
- T_C = +25°C 15W

Operating Junction Temperature, T_J . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°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	100	–	400	
		V_{CE} = 5V, I_C = 10A	80	–	–	
Gain–Bandwidth Product	f_T	V_{CE} = 10V, I_C = 50mA	–	120	–	MHz
Output Capacitance NTE2528	C_{ob}	V_{CB} = 10V, f = 1MHz	–	12	–	pF
NTE2529			–	22	–	pF
Collector–Emitter Saturation Voltage NTE2528	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA	–	0.13	0.5	V
NTE2529			–	0.2	0.45	V

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA	–	0.85	1.2	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	180	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	160	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	6	–	–	V
Turn–On Time	t_{on}	V_{CC} = 100V, V_{BE} = –5V, $10I_{B1} = -10I_{B2} = I_C$ = 700mA, Pulse Width = 20μs, Duty Cycle ≤ 1%, Note 1	–	60	–	ns
Storage Time NTE2528	t_{stg}		–	1.2	–	ns
NTE2529			–	0.7	–	ns
Fall Time NTE2528	t_f		–	80	–	ns
NTE2529			–	50	–	ns

Note 1. For NTE2529, the polarity is reversed.

