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NTE2691 (NPN) & NTE2692 (PNP) Silicon Complementary Transistors High Voltage Switch

Features:

- High Breakdown Voltage
- Large Current Capacity

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ 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 Dissipation, P_C	1W
Maximum 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}	$V_{CB} = 120\text{V}, I_E = 0$	–	–	1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$	–	–	1	μA
DC Current Gain NTE2691	h_{FE1}	$V_{CE} = 5\text{V}, I_C = 100\text{mA}$	140	–	280	
NTE2692			200	–	400	
DC Current Gain	h_{FE2}	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	80	–	–	
Gain–Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}$	–	120	–	MHz
Output Capacitance NTE2691	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	–	14	–	pF
NTE2692			–	22	–	pF
Collector–Emitter Saturation Voltage NTE2691	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	–	130	450	mV
NTE2692			–	200	500	mV
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	–	0.85	1.2	V



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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	180	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	160	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6	-	-	V
Turn-On Time	t_{on}	$I_C = 10\text{I}_{B1} = -10\text{I}_{B1} = 700\text{mA},$ $V_{CC} = 100\text{V}, \text{Pulse Width} = 20\mu\text{s},$ $\text{Duty Cycle} \leq 1\%$	-	40	-	μs
Storage Time NTE2691	t_{stg}		-	1.2	-	μs
NTE2692			-	0.7	-	μs
Fall Time NTE2691	t_f		-	80	-	ns
NTE2692		-	40	-	ns	

