



ELECTRONICS, INC.
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NTE90 (NPN) & NTE91 (PNP) Silicon Complementary Transistors General Purpose High Gain Amplifier

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

Collector–Emitter Voltage, V_{CEO}	120V
Collector–Base Voltage, V_{CBO}	120V
Emitter–Base Voltage, V_{EBO}	5V
Collector Current, I_C	50mA
Collector Power Dissipation, P_C	750mW
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–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	120	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	120	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100\text{V}, I_B = 0$	–	–	0.5	μA
DC Current Gain	h_{FE1}	$V_{CE} = 12\text{V}, I_C = 2\text{mA}$	400	–	800	
	h_{FE2}	$V_{CE} = 12\text{V}, I_C = 10\text{mA}$	125	–	–	
Base–Emitter Voltage	V_{BE}	$V_{CE} = 12\text{V}, I_C = 2\text{mA}$	–	–	0.75	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$	–	–	0.2	V
Current Gain–Bandwidth Product	f_T	$V_{CE} = 12\text{V}, I_C = 5\text{mA}$	–	350	–	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 25\text{V}, I_E = 0, f = 1\text{MHz}$	–	1.6	–	pF

