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## NTE90 (NPN) & NTE91 (PNP) Silicon Complementary Transistors General Purpose High Gain Amplifier

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

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, $T_J$	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$	$-55^\circ$ 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-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	$\mu\text{A}$
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

