



**ELECTRONICS, INC.**  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089

## 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	$\mu\text{A}$
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

