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NTE16 (NPN) & NTE17 (PNP) Silicon Complementary Transistors Low Noise, General Purpose Amplifier

Features:

- Low Collector Saturation Voltage
- Low Output Capacitance
- Low Noise

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

Collector-Base Voltage, V_{CBO}	50V
Collector-Emitter Voltage, V_{CEO}	40V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	100mA
Collector Dissipation, P_C	300mW
Operating Junction Temperature, T_J	$+125^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+125^\circ\text{C}$

Note 1. **NTE16** is a **discontinued** device and **no longer available**.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$	40	–	–	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 50\mu\text{A}$	50	–	–	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 50\mu\text{A}$	5	–	–	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 30\text{V}$	–	–	0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}$	–	–	0.5	μA
DC Current Gain	h_{FE}	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	270	–	560	
Collector-Emitter Saturation Voltage NTE16	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	–	–	0.4	V
NTE17			–	0.1	0.5	V
Transition Frequency NTE16	f_T	$V_{CE} = 12\text{V}, I_E = 2\text{mA}$	–	180	–	MHz
NTE17			–	140	–	MHz
Output Capacitance NTE16	C_{ob}	$V_{CB} = 12\text{V}, I_E = 0, f = 1\text{MHz}$	–	2.0	3.5	pF
NTE17			–	4.0	5.0	pF

