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NTE42 (NPN) & NTE43 (PNP) Silicon Complementary Transistors Dual, Differential Amp, High Gain, Low Noise, Common Emitter

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

Collector-Base Voltage, V_{CBO}	50V
Collector-Emitter Voltage, V_{CEO}	50V
Emitter-Base Voltage, V_{EBO}	5V
Collector Current, I_C	100mA
Collector Power Dissipation (Per Unit), P_C	200mW
Total Power Dissipation, P_T	400mW
Junction Temperature, T_J	+125°C
Storage Temperature Range, T_{stg}	-55° to +125°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\mu\text{A}$, $R_{BE} = \infty$	50	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}$, $I_E = 0$	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}$, $I_C = 0$	5	-	-	V
Collector-Cutoff Current	I_{CBO}	$V_{CB} = 35\text{V}$, $I_E = 0$	-	-	0.1	μA
	I_{CEO}	$V_{CE} = 35\text{V}$, $R_{BE} = \infty$	-	-	10	μA
Emitter-Cutoff Current	I_{EBO}	$V_{EB} = 2\text{V}$, $I_C = 0$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	400	-	800	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$	-	-	0.6	V
Base-Emitter Voltage Differential	$V_{BE1} - V_{BE2}$	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	-	1	10	mV
Small Signal Current Gain Ratio	h_{fe1}/h_{fe2}	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	0.8	0.98	1.0	
Transistion Frequency	f_T	$V_{CE} = 6\text{V}$, $I_E = 1\text{mA}$	-	150	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 6\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	2.5	-	pF
Noise Figure	NF	$V_{CE} = 6\text{V}$, $I_E = 0$, $f = 1\text{kHz}$, $R_G = 10\text{k}\Omega$	-	0.5	-	dB
Noise Voltage RMS	NV_1	$V_{CE} = 10\text{V}$, $I_E = 1\text{mA}$, $R_g = 100\text{k}\Omega$, $G_V = 80\text{dB}$	-	100	-	mV
	Peak		NV_2	-	0.5	-

