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NTE2367 (NPN) & NTE2368 (PNP) Silicon Complementary Transistors Digital ^{w/2} Built-In 4.7k Bias Resistors

Features:

- Built-In Bias Resistor ($R_1 = 4.7k\Omega$, $R_2 = 4.7k\Omega$)
- Small-Sized Package (TO92 type)

Applications:

- Switching Circuit
- Inverter
- Interface Circuit
- Driver

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

Collector to Base Voltage, V_{CBO}	50V
Collector to Emitter Voltage, V_{CEO}	50V
Emitter to Base Voltage, V_{EBO}	10V
Collector Current, I_C	
Continuous	100mA
Peak	200mA
Collector Dissipation, P_C	300mW
Operating Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	
NTE2367	-55° to $+160^\circ\text{C}$
NTE2368	-55° 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 Cutoff Current NTE2367	I_{CBO}	$I_E = 0$	$V_{CB} = 40V$	-	-	0.1	μA
			$V_{CB} = 50V$	-	-	0.1	μA
Collector Cutoff Current NTE2368	I_{CEO}	$I_B = 0$	$V_{CE} = 40V$	-	-	0.5	μA
			$V_{CB} = 50V$	-	-	0.5	μA
Emitter Cutoff Current NTE2367	I_{EBO}	$V_{EB} = 5V, I_C = 0$	170	250	330	μA	
NTE2368		$V_{EB} = 10V, I_C = 0$	0.82	-	1.52	mA	
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 10mA$	30	-	-		
Current Gain-Bandwidth Product NTE2367	f_T	$V_{CE} = 10V, I_C = 5mA$	-	250	-	MHz	
			-	200	-	MHz	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Current Gain–Bandwidth Product NTE2367	f_T	$V_{CE} = 10\text{V}, I_C = 5\text{mA}$	–	250	–	MHz
NTE2368			–	200	–	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$	–	3.0	–	pF
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5\text{mA}, I_B = 0.25\text{mA}$	–	0.1	0.3	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	50	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 100\mu\text{A}, R_{BE} = \infty$	50	–	–	V
Input OFF Voltage	$V_{I(off)}$	$V_{CE} = 5\text{V}, I_C = 100\mu\text{A}$	1.0	–	1.5	V
Input ON Voltage	$V_{I(on)}$	$V_{CE} = 200\text{mV}, I_C = 5\text{mA}$	1.1	–	2.0	V
Input Resistance	R_1		3.29	4.7	6.11	k Ω
Input Resistance Ratio	R_1/R_2		0.9	1.0	1.1	

