ELECTRONICS, INC.
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NTE2414 (NPN) & NTE2415 (PNP)
Silicon Complementary Transistors
Digital W/2 Built–In Bias 10k Resistors
(Surface Mount)

Features:
- Built–In Bias Resistors
- Small SOT–23 Surface Mount Package

Applications:
- Switching Circuits
- Inverters
- Interface Circuits
- Driver

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Collector–Base Voltage, V_{CBO} 50V
Collector–Emitter Voltage, V_{CEO} 50V
Emitter–Base Voltage, V_{EBO} 10V
Collector Current, I_C
Continuous 100mA
Peak 200mA
Collector Dissipation, P_C 200mW
Operating Junction Temperature, T_J . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 40V, I_E = 0	–	–	0.1	µA
	I_{CEO}	V_{CE} = 40V, I_B = 0	–	–	0.5	µA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	170	250	330	µA
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 10mA	50	–	–	
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10µA, I_E = 0	50	–	–	V
Collector–Emitter Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100µA, R_{BE} = ∞	50	–	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 0.5mA	–	0.1	0.3	V
Current Gain–Bandwidth Product NTE2414	f_T	V_{CE} = 10V, I_C = 5mA	–	250	–	MHz
NTE2415			–	200	–	MHz

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Capacitance NTE2414	C_{ob}	V_{CB} = 10V, f = 1MHz	–	3.5	–	pF
NTE2415			–	5.3	–	pF
Input OFF Voltage	$V_{I(off)}$	V_{CE} = 5V, I_C = 100µA	0.8	1.1	1.5	V
Input ON Voltage	$V_{I(on)}$	V_{CE} = 0.2V, I_C = 10mA	1.0	2.0	4.0	V
Input Resistance	R_1		7	10	13	kΩ
Input Resistance Ratio	R_1/R_2		0.9	1.0	1.1