NTE ELECTRONICS, INC.

NTE2321
Silicon NPN Transistor
Quad, General Purpose

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 30V
Collector–Base Voltage, V_{CBO} 60V
Emitter–Base Voltage, V_{EBO} 5V
Continuous Collector Current, I_C 500mA
Total Device Dissipation (T_A = +25°C, Each Transistor), P_D 0.65W
Derate Above 25°C . . . . . 5.2mW/°C
Total Device Dissipation (T_A = +25°C, Total Device), P_D 1.9W
Derate Above 25°C . . . . . 15.2mW/°C
Operating Junction Temperature Range, T_J . . . . . –65° to +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0, Note 1	40	–	–	V
Collector–Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	60	–	–	V
Emitter–Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	5	–	–	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 50V, I_E = 0	–	–	50	nA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 3V, I_E = 0	–	–	50	nA
ON Characteristics						
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 10mA	75	–	–	
		V_{CE} = 10V, I_C = 150mA	100	–	–	
		V_{CE} = 10V, I_C = 300mA	30	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 150mA, I_B = 15mA	–	–	0.4	V
		I_C = 300mA, I_B = 30mA	–	–	1.6	V
Small–Signal Characteristics						
Current Gain–Bandwidth Product	f_T	V_{CE} = 20V, I_C = 20mA, f = 100MHz, Note 1	200	350	–	MHz
Output Capacitance	C_{obo}	V_{BE} = 19V, I_E = 0, f = 1MHz	–	4.5	8.0	pF
Input Capacitance	C_{ibo}	V_{BE} = 0.5V, I_C = 0, f = 1MHz	–	17	30	pF

Note 1. Pulse test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

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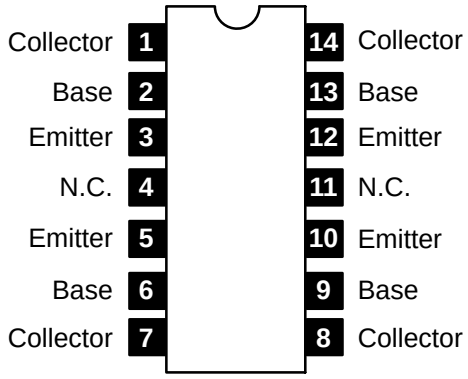
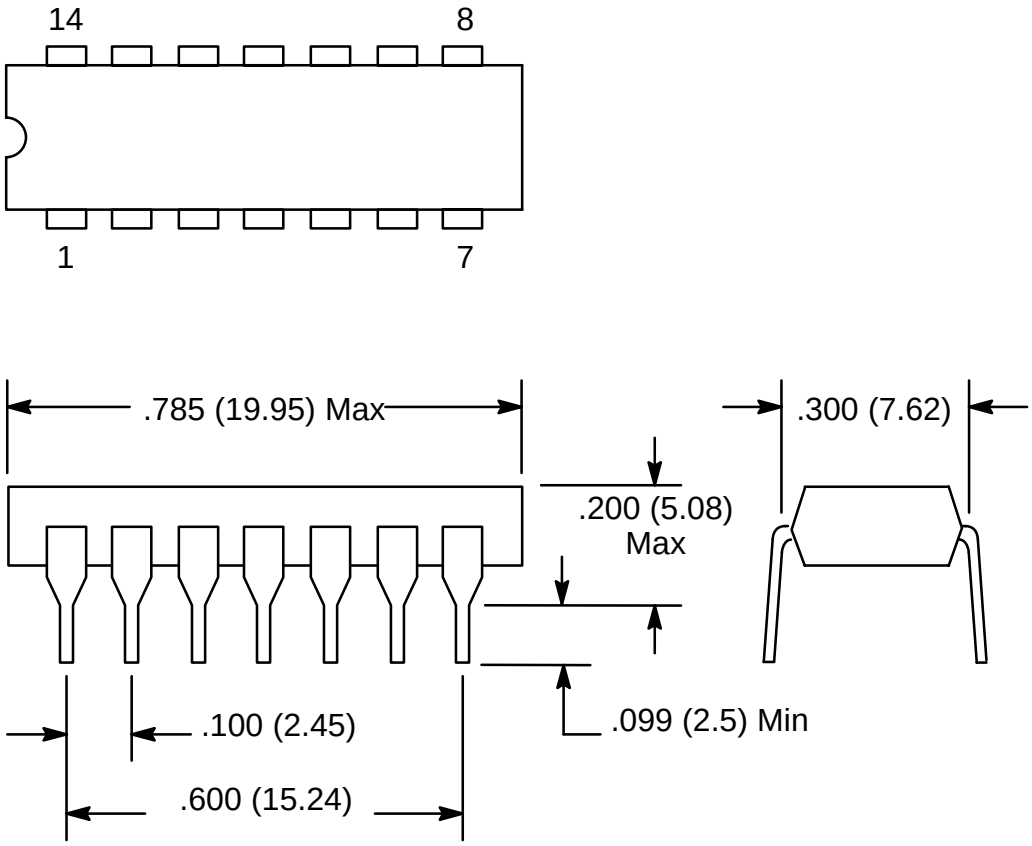
Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Switching Characteristics						
Turn–On Time	t_{on}	V_{CC} = 30V, $V_{BE(off)}$ = 0.5V, I_C = 150mA, I_{B1} = 15mA	–	25	–	ns
Turn–Off Time	t_{off}	V_{CC} = 30V, I_C = 150mA, I_{B1} = I_{B2} = 15mA	–	250	–	ns

Pin Connection Diagram





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