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

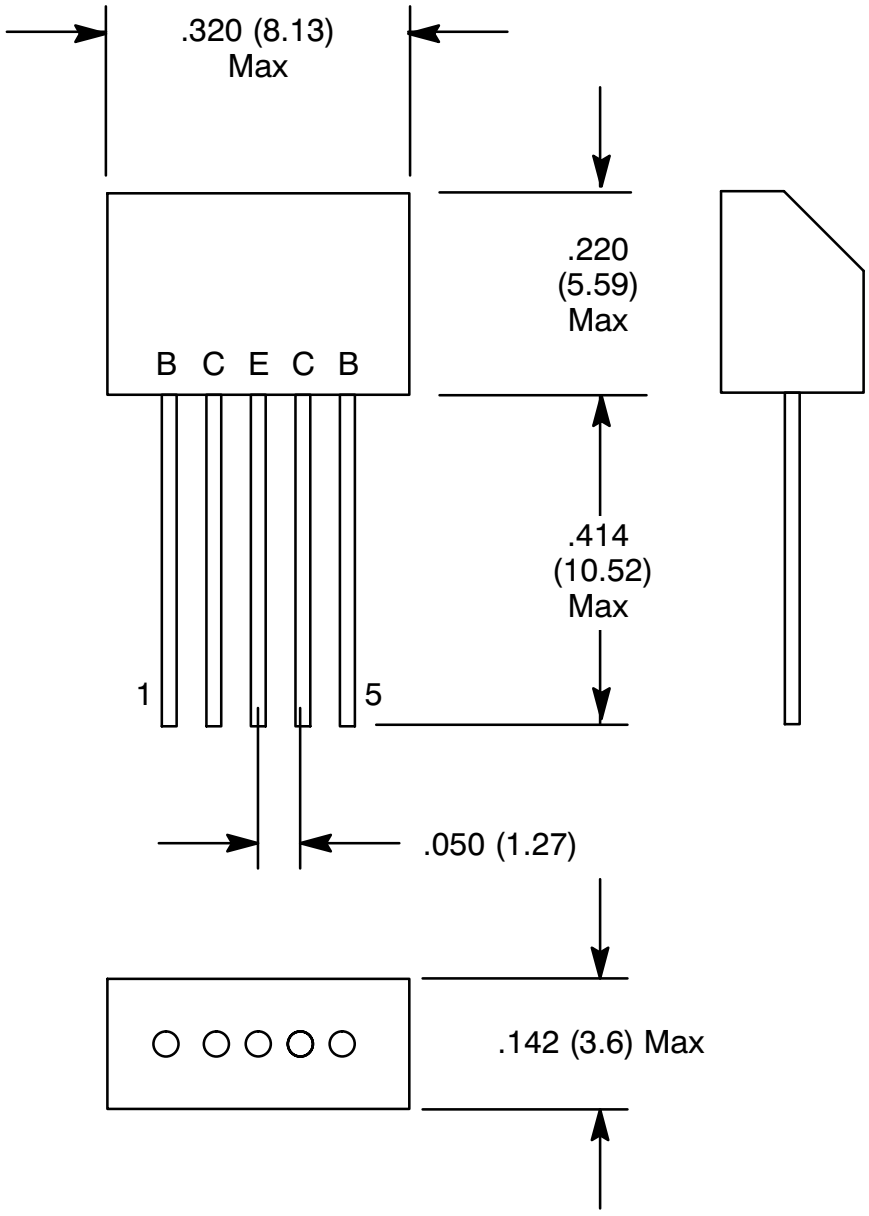
Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

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

Note 1. **NTE42** is a **discontinued** device and **no longer available**.

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

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


.320 (8.13)
Max
.220
(5.59)
Max
B C E C B
.414
(10.52)
Max
1
5
.050 (1.27)
.142 (3.6) Max