



**ELECTRONICS, INC.**  
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## NTE24 (NPN) & NTE25 (PNP) Silicon Complementary Transistors General Purpose Amplifier, Switch

**Description:**

The NTE24 (NPN) and NTE25 (PNP) are complementary silicon transistors in a TO237 type package designed for general purpose medium power amplifier and switching circuits that require collector currents to 1A.

**Features:**

- High Collector–Emitter Breakdown Voltage:  $V_{CEO} = 80V$
- Exceptional Power Dissipation Capability

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

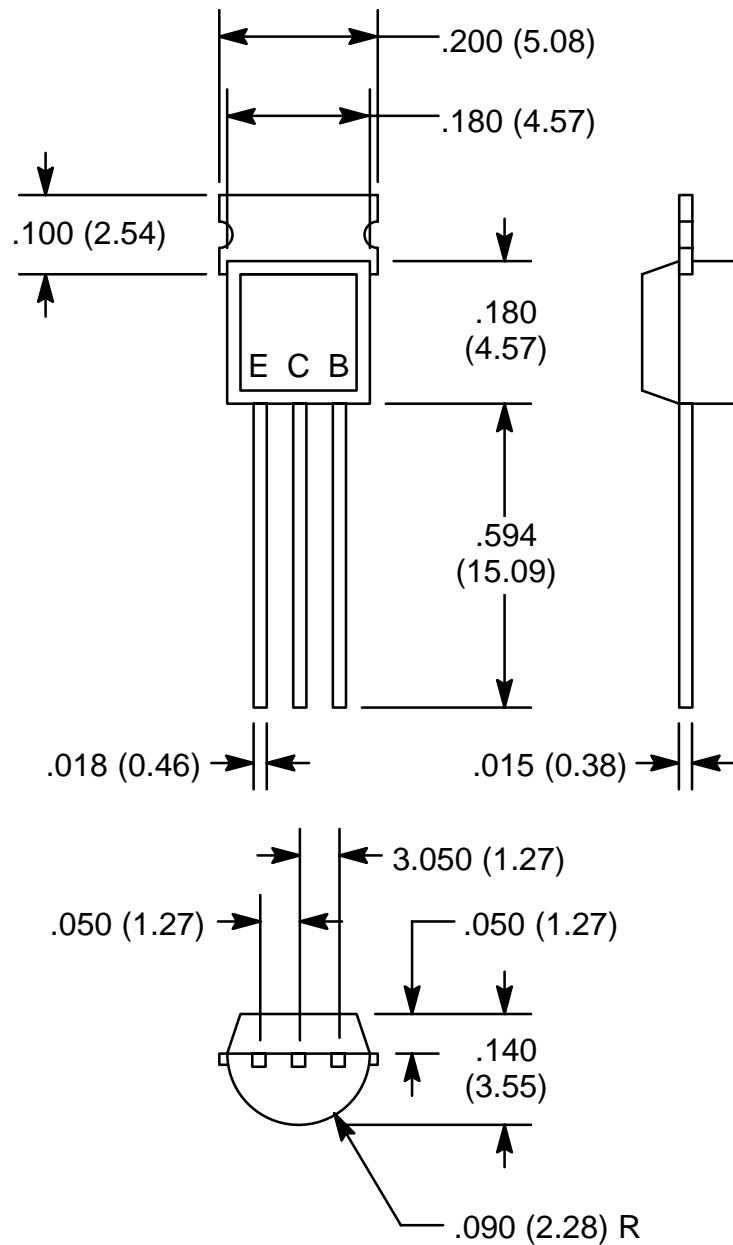
Collector–Base Voltage, $V_{CBO}$ .....	100V
Collector–Emitter Voltage, $V_{CEO}$ .....	80V
Emitter–Base Voltage, $V_{EBO}$ .....	5V
Collector Current, $I_C$	
Continuous .....	1A
Peak .....	2A
Power Dissipation, $P_D$	
$T_A = +25^{\circ}C$ .....	850mW
$T_C = +25^{\circ}C$ .....	2W
Junction Temperature, $T_{J(max)}$ .....	$+150^{\circ}C$
Storage Temperature Range, $T_{stg}$ .....	$-55^{\circ}$ to $+150^{\circ}C$
Thermal Resistance, Junction–to–Case, $R_{thJC}$ .....	$50^{\circ}C/W$
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....	$167^{\circ}C/W$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	80	–	–	V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 100V, I_E = 0$	–	–	0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	–	–	100	nA
DC Current Gain	h <sub>FE</sub>	$V_{CE} = 2V, I_C = 50mA$	40	–	–	
		$V_{CE} = 2V, I_C = 250mA$	40	–	–	
		$V_{CE} = 2V, I_C = 500mA$	25	–	–	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	–	–	0.5	V
		$I_C = 1000\text{mA}, I_B = 100\text{mA}$	–	–	1.5	V
Base–Emitter ON Voltage	$V_{BE(on)}$	$V_{CE} = 2\text{V}, I_C = 1000\text{mA}$	–	–	0.5	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = 5\text{V}, I_C = 200\text{mA}, f = 100\text{MHz}$	50	–	–	MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	–	–	30	pF



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