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## NTE2426 (NPN) & NTE2427 (PNP) Silicon Complementary Transistors Darlington Switch

### **Description:**

The NTE2426 and NTE2427 are silicon planer Darlington transistors in a SOT-89 type surface mount package designed for use in industrial switching applications such as print hammer, solenoid, relay, and lamp drivers.

### **Absolute Maximum Ratings:**

Collector-Base Voltage (Open Emitter), $V_{CBO}$ .....	90V
Collector-Emitter Voltage, $V_{CER}$ .....	80V
Emitter-Base Voltage (Open Collector), $V_{EBO}$ .....	5V
Collector Current, $I_C$	
Continuous .....	500mA
Peak .....	1.5A
Base Current, $I_B$ .....	100mA
Total Power Dissipation ( $T_A \leq +25^\circ\text{C}$ , Note 1), $P_{tot}$ .....	1W
Operating Junction Temperature (Note 2), $T_J$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	-65° to +150°C
Thermal Resistance, Junction-to-Ambient (Note 1, Note 2), $R_{thJA}$ .....	125K/W
Thermal Resistance, Junction-to-Tab (Note 2), $R_{thJTAB}$ .....	10K/W

Note 1. Device mounted on a ceramic substrate; area = 2.5cm<sup>2</sup>, thickness = 0.7mm.

Note 2. Based on maximum average junction temperature in line with common industrial practice.  
 The resulting higher junction temperature of the output transistor part is taken into account.

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

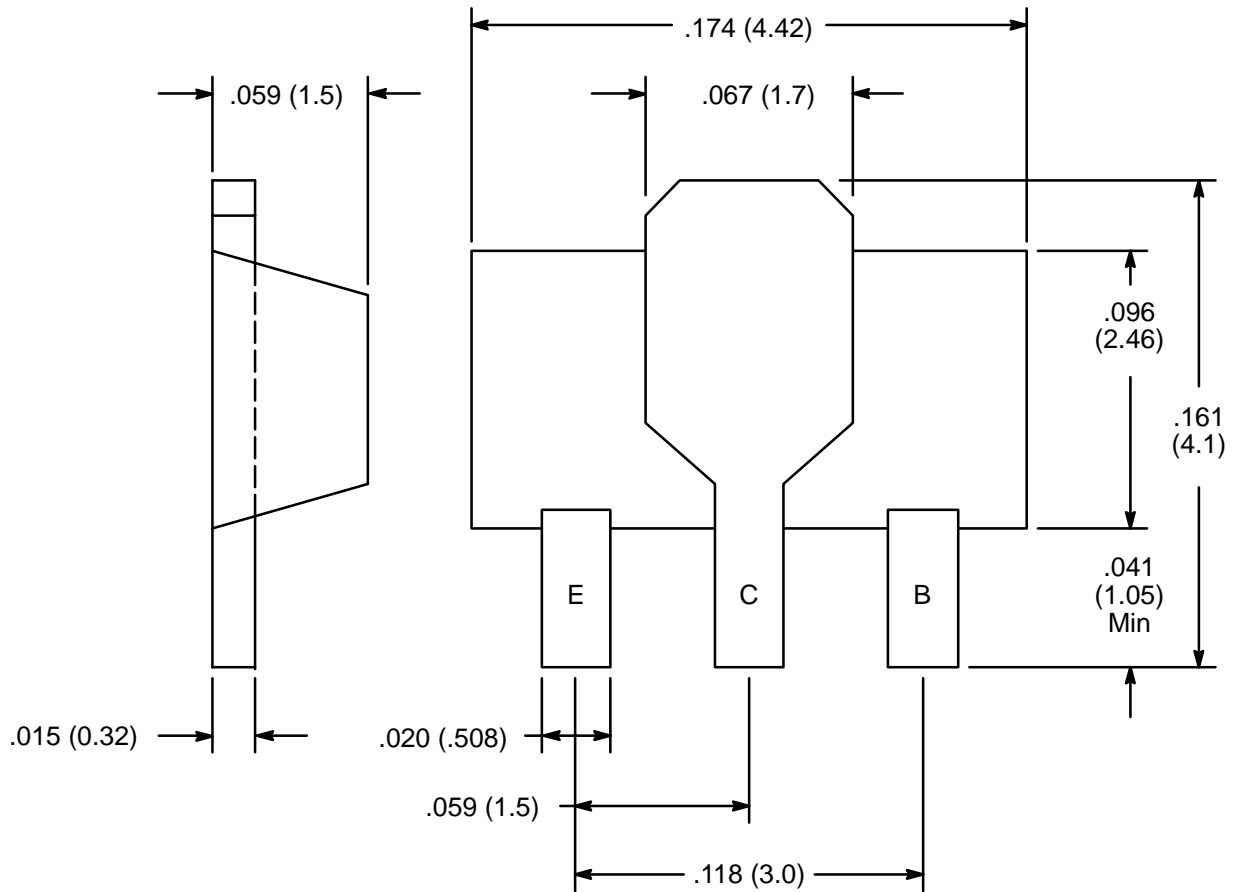
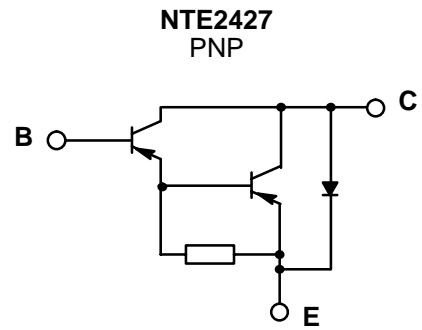
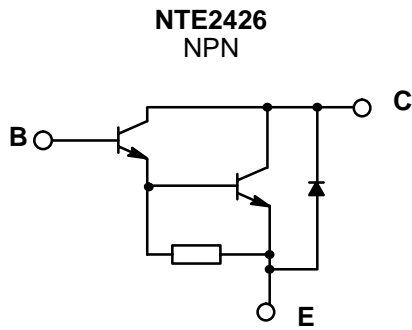
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CES}$	$V_{CER} = 80V, V_{BE} = 0$	-	-	10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = 4V, I_C = 0$	-	-	10	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE} = 10V, I_C = 150mA$ , Note 3	1000	-	-	
		$V_{CE} = 10V, I_C = 500mA$ , Note 3	2000	-	-	

Note 3. Measured under pulsed conditions.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 0.5\text{mA}$	–	–	1.3	V
		$I_C = 500\text{mA}, I_B = 0.5\text{mA}, T_J = +150^\circ\text{C}$	–	–	1.3	V
Base–Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 500\text{mA}, I_B = 0.5\text{mA}$	–	–	1.9	V
Turn–On Time	$t_{on}$	$I_C = 500\text{mA}, I_{B(on)} = -I_{B(off)} = 0.5\text{mA}$	–	400	–	ns
Turn–Off Time	$t_{off}$		–	1500	–	ns

**Schematic Diagram**



Bottom View