

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 = 2.5cm², thickness = 0.7mm.

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

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

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

