



NTE2404 (NPN) & NTE2405 (PNP) Silicon Complementary Transistors Darlington, General Purpose

Description:

The NTE2404 (NPN) and NTE2405 (PNP) are silicon complementary Darlington transistors in an SOT-23 type surface mount case designed for general-purpose applications.

Absolute Maximum Ratings:

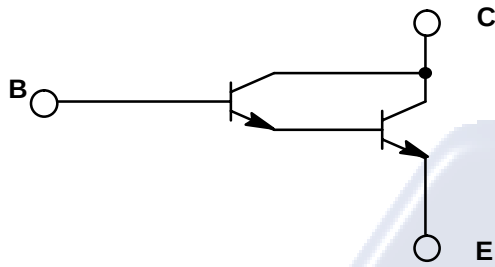
Collector-Emitter Voltage, V_{CEO}	30V
Collector-Base Voltage, V_{CBO}	40V
Emitter-Base Voltage, V_{EBO}	10V
Collector Current, I_C	
Continuous	300mA
Peak	800mA
Base Current, I_B	100mA
Total Power Dissipation ($T_A = +25^\circ\text{C}$, Note 1), P_D	350mW
Operating Junction Temperature, T_J	$+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+150^\circ\text{C}$
Thermal Resistance, Junction to Ambient (Note 1), R_{thJA}	350K/W

Note 1. Mounted on a ceramic substrate of .590 (15mm) x .590 (15mm) x .027 (0.7mm).

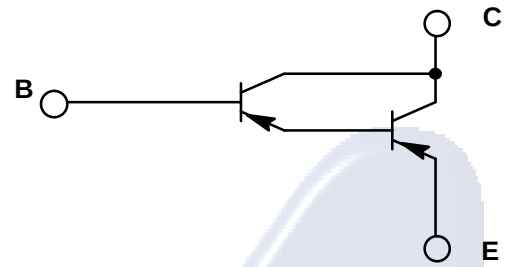
Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Current	I_{CBO}	$V_{CBO} = 30\text{V}$	—	—	100	nA
Emitter-Base Current	I_{EBO}	$V_{EB} = 10\text{V}$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}$	30	—	—	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}$	40	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\text{nA}$	10	—	—	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}$, $I_B = 0.1\text{mA}$	—	—	1	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}$, $I_B = 0.1\text{mA}$	—	—	1.5	V
DC Current Gain	h_{FE}	$I_C = 1\text{mA}$, $V_{CE} = 5\text{V}$	4000	—	—	
		$I_C = 10\text{mA}$, $V_{CE} = 5\text{V}$	10000	—	—	
		$I_C = 100\text{mA}$, $V_{CE} = 5\text{V}$	20000	—	—	
Transition Frequency	f_T	$I_C = 30\text{mA}$, $V_{CE} = 5\text{V}$, $f = 100\text{MHz}$	—	220	—	MHz
Collector Capacitance	C_C	$I_E = 0$, $V_{CB} = 30\text{V}$	—	3.5	—	pF

Schematic Diagram



NPN



PNP

