

NTE2078 Integrated Circuit 5-Stage Darlington Transistor Array

Description:

The NTE2078 is a 5-channel sink driver consisting of 10 NPN transistors connected to form high current gain driver pairs.

Features:

- Output sustaining voltage to 30V
- High Output Sink Current to 500mA
- Wide Operating Temperature Range ($T_A = -20^\circ$ to $+75^\circ\text{C}$)

Application:

- Relay and printer drivers
- LED or incandescent display digit driver
- Interface for standard MOS/Bi POLAR logics.

Absolute Maximum Ratings: ($T_A = -20^\circ$ to $+75^\circ\text{C}$, unless otherwise specified)

Output Sustaining Voltage (Transistor OFF), V_{CEO} -0.5 to 30V
 Collector Current (Transistor ON), I_C 500mA
 Power Dissipation ($T_A = +25^\circ\text{C}$), P_d 1.47W
 Operating Ambient Temperature Range, T_{opr} -20° to $+75^\circ\text{C}$
 Storage Temperature Range, T_{stg} -55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = -20^\circ$ to $+75^\circ\text{C}$, Note 1, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Sustaining Voltage	$V_{(BR)CEO}$	$I_{CEO} = 100\mu\text{A}$	30	—	—	V
Output Saturation Voltage	$V_{CE(sat)}$	$V_I = 2\text{mA}$, $I_C = 400\text{mA}$	—	1.0	2.4	V
		$V_I = 1\text{mA}$, $I_C = 200\text{mA}$	—	0.8	1.6	
Input Voltage	V_I	$I_I = 1\text{mA}$	0.6	1.35	1.7	V
Output Voltage	V_O		0	—	30	V

Note 1. All typical values are at $T_A = 25^\circ\text{C}$.

Electrical Characteristics (Cont'd): ($T_A = -20^\circ$ to $+75^\circ\text{C}$, Note 1, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Current per Channel	I_C	Percent Duty Cycle: $< 10\%$	0	–	400	mA
		Percent Duty Cycle: $< 55\%$	0	–	200	
“H” Input Current	I_{IH}	$I_C = 200\text{mA}$	1	–	5	mA
		$I_C = 400\text{mA}$	2	–	5	
“L” Input Current	I_{IL}		–	0	–	μA

Note 1. All typical values are at $T_A = 25^\circ\text{C}$.

Pin Connection Diagram

