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NTE2074 Integrated Circuit 7-Stage Darlington Transistor Array w/Clamp Diode

Description:

The NTE2074 is a 7-Channel sink driver that consists of 14NPN transistors connected to form seven high current gain driver pairs.

Features:

- High output sustaining voltage to 40V
- High output sink current to 400mA
- Integral diodes for transient suppression
- PMOS compatible Input
- Wide operating temperature range ($T_A = -20^\circ$ to $+75^\circ\text{C}$)

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

Output Sustaining Voltage (Transistor OFF), V_{CEO} -50V to +40V
 Collector Current, I_C (Transistor ON) 400mA
 Input Voltage, V_I 40V
 Clamp Diode Forward Current, I_F 400mA
 Clamp Diode Reverse Voltage, V_R 40V
 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 $+125^\circ\text{C}$

Recommended Operational Conditions: ($T_A = -20^\circ$ to $+75^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O		0	–	40	V
Collector Current per Channel	I_C	Percent Duty Cycle Less than 8%	0	–	400	mA
		Percent Duty Cycle Less than 30%	0	–	200	mA
“H” Input Voltage	V_{IH}	$I_C = 400\text{mA}$	8	–	35	V
		$I_C = 200\text{mA}$	5	–	35	V
“L” Input Voltage	V_{IL}	$I_{O(leak)} = 50\mu\text{A}$	0	–	0.5	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Sustaining Voltage	$V_{(BR)CEO}$	$I_{CER} = 100\mu A$	40	–	–	V
Output Saturation Voltage	$V_{CE(sat)}$	$V_I = 8V, I_C = 400mA$	–	1.3	2.4	V
		$V_I = 5V, I_C = 200mA$	–	1	1.6	V
Input Current	I_I	$V_I = 17V$	–	0.85	1.8	mA
		$V_I = 35V$	–	2.0	3.8	mA
Clamp Diode Forward Voltage	V_F	$I_{F(D)} = 400mA$	–	1.5	2.4	V
Clamp Diode Reverse Voltage	V_R	$V_{R(O)} = 100\mu A$	40	–	–	V
DC Foward Current Gain	h_{FE}	$V_{CE} = 4V, I_C = 300mA, T_A = +25^{\circ}\text{C}$	1000	3500		

Pin Connection Diagram

