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NTE2084 Integrated Circuit 5-Stage Darlington Transistor Array

Description:

The NTE2084 is a 5-channel sink driver consisting of 10 NPN transistors connected to form five high current gain driver pairs.

Features:

- Output sustaining voltage to 25V
- High output sink current to 500mA
- 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} -0.5V to +25V
Collector Current, I_C (Transistor ON) 500mA
Input Voltage, V_I 25V
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	–	25	V
Collector Current per Channel	I_C	Percent Duty Cycle Less than 10%	0	–	400	mA
		Percent Duty Cycle Less than 55%	0	–	200	mA
“H” Input Voltage	V_{IH}	$I_C = 400\text{mA}$	8	–	20	V
		$I_C = 200\text{mA}$	5	–	20	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	$V_{(BR)CEO}$	$I_{CER} = 100\mu\text{A}$	25	–	–	V
Output Saturation Voltage	$V_{CE(sat)}$	$V_I = 8\text{V}, I_C = 400\text{mA}$	–	1.15	2.2	V
		$V_I = 5\text{V}, I_C = 200\text{mA}$	–	0.95	1.4	V
Input Current	I_I	$V_I = 17\text{V}$	–	0.8	1.8	mA
DC Foward Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 400\text{mA}, T_A = +25^{\circ}\text{C}$	1000	4000	–	

Pin Connection Diagram

