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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,  $T_{opr}$  .....  $-20^\circ$  to  $+75^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  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**

