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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 transitors 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° to +75°C)

Absolute Maximum Ratings: (T_A = –20° to +75°C unless otherwise specified)

Output Sustaining Voltage (Transistor OFF), V_{CEO} . . . . . –50V to +40V
Collector Current, I_C ($I_{C(ON)}$) 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°C), P_D 1.47W
Operating Ambient Temperature Range, T_{opr} . . . . . –20° to +75°C
Storage Temperature Range, T_{stg} . . . . . –55° to +125°C

Recommended Operational Conditions: (T_A = –20° to +75°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 = 400mA	8	–	35	V
		I_C = 200mA	5	–	35	V
“L” Input Voltage	V_{IL}	$I_{O(leak)}$ = 50μA	0	–	0.5	V

Electrical Characteristics: (T_A = −20° to +75°C, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Sustaining Voltage	$V_{(BR)CEO}$	I_{CER} = 100µA	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	$V_{R(O)}$ = 100µA	40	–	–	V
DC Foward Current Gain	h_{FE}	V_{CE} = 4V, I_C = 300mA, T_A = +25°C	1000	3500		

Pin Connection Diagram