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NTE7087 Integrated Circuit Bi-Directional Motor Driver

Description:

The NTE7087 is a bi-directional motor driver IC in a 10-Lead SIP type package capable of direct driving 6V, 9V, and 12V motors. This device has a 2-input logic circuit and performs the functions of bi-directional driving and braking. The output voltage can be varied by using an external zener diode.

Features:

- 2-Input Logic can be used to Exercise Control of Bi-Directional Driving and Braking
- On-Chip Elements to Absorb the Dash Current of the Motor
- Input Interfaceable with MOS LSI
- Output Voltage Variable by using an External Zener Diode

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Maximum Supply Voltage, V_{CCmax}	18V
Input Voltage, V_{IN}	-0.3V to V_{CC}
Output Current, I_{OUT}	$\pm 1.6A$
Allowable Power Dissipation, P_{Dmax}	1.2W
Operating Temperature Range, T_{opr}	-25° to +75°C
Storage Temperature Range, T_{stg}	-55° to +125°C

Recommended Operating Conditions: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC1}		7	-	18	V
	V_{CC2}		5	-	18	V

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 12\text{V}$ unless otherwise specified)

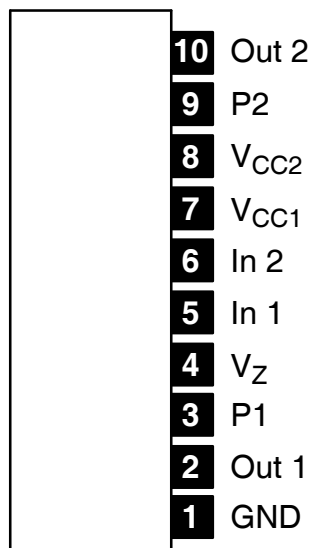
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Threshold Voltage	V_{th}	$R_L = \infty$	1.1	1.3	1.5	V
Minimum Input ON-State Current	I_{IN}	$R_L = \infty$	-	10	15	μA
Output Voltage	V_O	$R_L = 60\Omega$, $V_Z = 7.4\text{V}$	6.6	7.2	7.4	V
Output Leakage Current	I_{OL}	Pin5, Pin6 GND, $R_L = \infty$	-	0.01	1.0	mA
Current Dissipation	I_{CC}	Pin5, Pin6 GND, $R_L = \infty$	3	6	10	mA
Saturation Voltage (Upper)	V_{sat1}	$V_{CC} = 12\text{V}$, $I_{OUT} = 300\text{mA}$	-	1.9	2.2	V
		$V_{CC} = 12\text{V}$, $I_{OUT} = 500\text{mA}$	-	1.9	2.3	V
Saturation Voltage (Lower)	V_{sat2}	$V_{CC} = 12\text{V}$, $I_{OUT} = 300\text{mA}$	-	0.25	0.5	V
		$V_{CC} = 12\text{V}$, $I_{OUT} = 500\text{mA}$	-	0.4	0.65	V

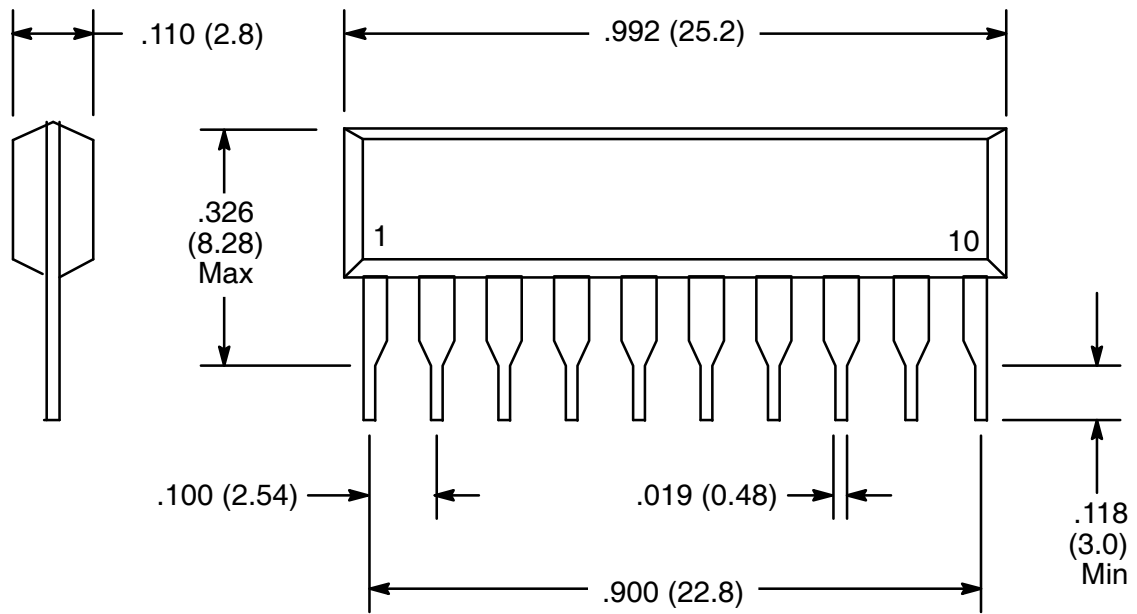
Truth Table:

Input		Output		Operation
IN1	IN2	OUT1	OUT2	
0	0	0	0	Braking
1	0	1	0	Forward (Reverse) Drive
0	1	0	1	Reverse (Forward) Drive
1	1	0	0	Braking

Input Level 1: 2.0V or greater
 2: 0.7V or less

Pin Connection Diagram
 (Front View)





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