

NTE7042 Integrated Circuit Bi-Directional Motor Driver

Description:

The NTE7042 is a Bi-Directional Motor Drive in a 9-Lead SIP type package and generates an output current of 700mA (Max) with 4 output modes of forward rotation, reverse rotation, stop (idling), and brake according to input logic (2 inputs). The GNDs of the logic unit and power unit are isolated. Therefore, the circuit of a reversible, variable-speed motor can be easily composed by adding an electronic governor at the output.

Features:

- Built-in Surge Absorbing Diode
- Low Standby Current
- Wide Operating Voltage Range: 4.5V to 15V
- TTL Compatible
- Built-in Thermal Shutdown Circuit

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

Supply Voltage, V_{CC}	18V
Output Current, I_O	700mA
Power Dissipation, P_D	800mW
Derate Above 25°C	8mW/ $^\circ\text{C}$
Operating Temperature Range, T_{opr}	-20° to $+60^\circ\text{C}$
Storage Temperature Range, T_{stg}	-55° to $+125^\circ\text{C}$

Electrical Characteristics: ($V_{CC} = 9\text{V}$, $T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC1}	V_{CC} (Pin6) ~ GND (Pin2, Pin5)	4.5	–	15	V
	V_{CC2}	V_{CC} (Pin6) ~ C_{OM} (Pin8)	4.0	–	15	V
Supply Current	I_{CC1}	Pin1 “H”, Pin3 “L” or Pin1 “L”, Pin3 “H”, $R_L = \infty$	18	34	50	mA
	I_{CC2}	Pin1 “H”, Pin3 “L”, $R_L = \infty$	34	52	70	mA
Standby Current	$I_{standby}$	Pin1 “L”, Pin3 “L”	–	–	1.5	mA
High Level Input Voltage	V_{IH}		2.0	–	–	V
Low Level Input Voltage	V_{IL}		–	–	0.8	V
High Level Input Current	I_{IH}	$V_{IN} = 2\text{V}$	–	93	135	μA
Collector-Emitter Voltage	V_{CE}	$I_O = 200\text{mA}$	–	1.2	1.6	V

Truth Table:

	Input (Pin3)	Input (Pin1)	Output (Pin7)	Output (Pin9)
IC not Operating	L	L	Open	Open
Motor Forward	H	L	H	L
Motor Reverse	L	H	L	H
Brake	H	H	L	L

Note 1. Input Voltage Level "H": $\pm 2.0V$
 Input Voltage Level "L": $\pm 0.8V$

Pin Connection Diagram
(Front View)

