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NTE1736 Integrated Circuit Module, 4-Phase Stepping Motor Driver

Features:

- Chopper Operation Capable of Providing Good Rising Characteristic of Motor Current and Low Heat Dissipation due to Constant Current.
- PAUSE Pin can be used to control Pause Action
- Unipolar Drive make it Possible to Drive Hybrid, PM, or VR Type Stepping Motor

Applications:

- Paper Feed Motor Driver and Carriage Motor Driver for Various Types of Printers such as Serial Printer, Line Printer, Etc.
- Pen Driver for X-Y Plotter
- Industrial Robot

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

Maximum Supply Voltage (Quiescent), V_{CCmax}	30V
Phase Drive Voltage, V_{CE}	60V
Phase Current (Each Phase), I_O	2.5A
Phase Input Voltage ($R_G = 1k\Omega$, 1 sec), V_{IN}	30V
Power Dissipation, P_D	
No Fin (IMST Substrate)	6.9W
Each Transistor in Each Phase ($T_C = 25^\circ\text{C}$)	8.5W
Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-40° to +125°C

Operating Characteristics: ($V_{CC} = 24V$, $T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Saturation Voltage I	$V_{st}(1)$	Across Pin1 & Pin2, Across Pin1 & Pin17, $R_L = 13\Omega$, $R_E = 0\Omega$, $R_O = 4.7k\Omega$, $V_{IN} = 5V$, $R_g = 3.3k\Omega$	-	1.2	16	V
Output Saturation Voltage II	$V_{st}(2)$	Across Pin4, Pin6, & Pin8, Across Pin14, Pin16, & Pin12, $R_L = 13\Omega$, $R_E = 0\Omega$, $R_O = 4.7k\Omega$, $V_{IN} = 5V$, $R_g = 3.3k\Omega$	2.15	2.6	-	V
Output Current	I_{OH}	Each Phase, $I_{IN} = 1mA$, $R_g = 3.3k\Omega$, $R_L = 13\Omega$	1.4	1.5	-	A
Stop Voltage	V_{stop}	$I_O = 0.5A$	1	-	5	V
Diode Forward Voltage I	$V_{df}(1)$	$I_F = 0.3A$	-	1.5	1.8	V
Diode Forward Voltage II	$V_{df}(2)$	$I_F = 0.5A$	-	1.2	1.8	V
Stop Current	I_{CCO}	$R_L = 13\Omega$, $R_O = 4.7k\Omega$, $R_E = 0\Omega$	-	8	13	mA
Voltage I on Pin9 or Pin11	V_H	Quiescent, $R_O = 4.7k\Omega$, $R_E = 0\Omega$	0.35	0.50	0.70	V
Voltage II on Pin9 or Pin11	V_L	Quiescent, $R_O = 4.7k\Omega$, $R_E = 0\Omega$	-	0.08	0.30	V

Note 1. For power supply, use a constant voltage power supply.

Note 2. When 100Hz square wave is applied to each phase input at the time of V_{st} measurement, no high frequency parastic oscillation shall occur in output wave.

Pin Connection Diagram
(Front View)



