ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE7043 & NTE7043P
Integrated Circuit
Motor Driver w/4 Modes

Features:

- 4 Modes Available: CW, CCW, STOP, and BRAKE
- Output Current Up to 1A (Average) and 2A (Peak)
- Wide Range of Operating Voltage:
  V_{CC} opr = 4.5V to 18V
  V_S = 0 to 18V
  V_{ref} = 0 to 18V
- Built–In Thermal Shutdown, Overcurrent Protector, and Punch–Through Current Restriction Circuit
- Stand–By Mode Available: STOP Mode
- Hysteresis for All Inputs
- Two Package Styles Available:
  NTE7043: 9–Lead SIP
  NTE7043P: 10–Lead SIP w/Heat Sink Tab

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage, V_{CC} 25V
Motor Drive Voltage, V_S 25V
Reference Voltage, V_{ref} 25V
Output Current, I_O
  NTE7043
    Average 400mA
    Peak 1.2A
  NTE7043P
    Average 1A
    Peak 2A
Power Dissipation, P_D
  NTE7043 (T_A =+25°C) 750mW
  NTE7043P (T_C = +25°C) 12.5W
Operating Temperature Range, T_{opr} . . . . . –30° to +75°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Electrical Characteristics: (T_A = +25°C, V_{CC} = 12V, V_S = 18V unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{CC1}	Output OFF, CW/CCW Mode	–	8.0	13.0	mA
	I_{CC2}	Output OFF, STOP Mode	–	0	0.05	mA
	I_{CC3}	Output OFF, BRAKE Mode	–	6.5	10.0	mA
Input Operating Voltage High	$V_{IN–H}$	T_J = +25°C	3.5	–	5.5	V
Low	$V_{IN–L}$		0	–	0.8	V
Input Current	I_{IN}	V_{IN} = 3.5V, Sink Mode	–	3	10	µA
Input Hysteresis Voltage	V_{HYS}		–	0.7	–	V
Saturation Voltage Upper Side	$V_{SAT\ U–1}$	V_{ref} = V_S, V_{OUT} – V_S, Measure I_O = 200mA, CW/CCW Mode	–	0.9	1.2	V
Lower Side	$V_{SAT\ L–1}$		–	0.8	1.2	V
NTE7043 Upper Side	$V_{SAT\ U–2}$	V_{ref} = V_S, V_{OUT} – V_S, Measure I_O = 400mA, CW/CCW Mode	–	1.0	1.35	V
Lower Side	$V_{SAT\ L–2}$		–	0.9	1.35	V
NTE7043P Upper Side	$V_{SAT\ U–3}$	V_{ref} = V_S, V_{OUT} – V_S, Measure I_O = 1A, CW/CCW Mode	–	1.3	1.8	V
Lower Side	$V_{SAT\ L–3}$		–	1.2	1.75	V
Output Voltage NTE7043 (Upper Side)	$V_{SAT\ U–1}$	V_{ref} = 10V, V_{OUT} – GND, Measure I_O = 200mA, CW/CCW Mode	–	11.2	–	V
	$V_{SAT\ U–2}$	V_{ref} = 10V, V_{OUT} – GND, Measure I_O = 400mA, CW/CCW Mode	10.4	10.9	12.2	V
NTE7043P (Upper Side)	$V_{SAT\ U–3}$	V_{ref} = 10V, V_{OUT} – GND, Measure I_O = 500mA, CW/CCW Mode	–	11.0	–	V
	$V_{SAT\ U–4}$	V_{ref} = 10V, V_{OUT} – GND, Measure I_O = 1A, CW/CCW Mode	10.2	10.7	12.0	V
Leakage Current Upper Side	$I_{L–U}$	V_S = 25V	–	0	50	µA
Lower Side	$I_{L–L}$	V_S = 25V	–	0	50	µA
Diode Forward Voltage Upper Side NTE7043	$V_{F\ U–1}$	I_F = 400mA	–	1.5	–	V
NTE7043P	$V_{F\ U–2}$	I_F = 1A	–	2.5	–	V
Lower Side NTE7043	$V_{F\ L–1}$	I_F = 400mA	–	0.9	–	V
NTE7043P	$V_{F\ L–2}$	I_F = 1A	–	1.2	–	V
Reference Current	I_{ref}	V_{ref} = 10V, Source Mode	–	20	40	µA

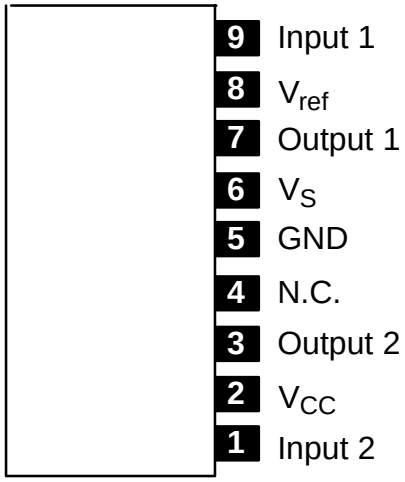
Function Table:

Input		Output		Mode
IN 1	IN 2	OUT 1	OUT 2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

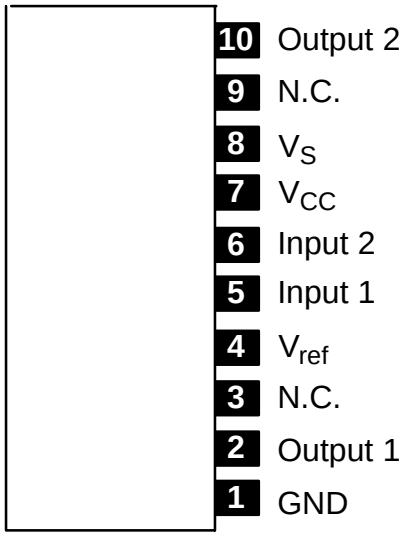
Note 1. Inputs are all high active type.

Note 2. ∞: High impedance

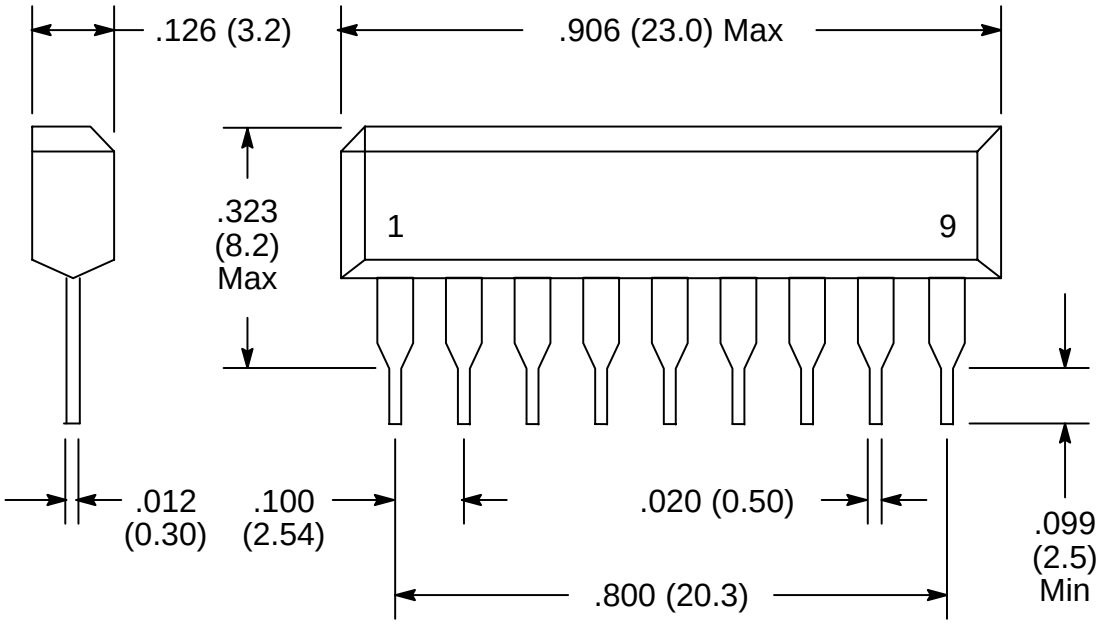
Pin Connection Diagram
NTE7043
(Front View)



NTE7043P
(Front VIew)



NTE7043



NTE7043P

