



# MC33039, NCV33039

## MAXIMUM RATINGS

Rating	Symbol	Value	Unit
V <sub>CC</sub> Zener Current	I <sub>Z(V<sub>CC</sub>)</sub>	30	mA
Logic Input Current (Pins 1, 2, 3)	I <sub>IH</sub>	5.0	mA
Output Current (Pins 4, 5), Sink or Source	I <sub>DRV</sub>	20	mA
Power Dissipation and Thermal Characteristics			
Maximum Power Dissipation @ T <sub>A</sub> = +85°C	P <sub>D</sub>	650	mW
Thermal Resistance, Junction-to-Air	R <sub>θJA</sub>	100	°C/W
Operating Junction Temperature	T <sub>J</sub>	+150	°C
Operating Ambient Temperature Range	T <sub>A</sub>		°C
MC33039		-40 to +85	
NCV33039		-40 to +125	
Storage Temperature Range	T <sub>stg</sub>	-65 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

## ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 6.25 V, R<sub>T</sub> = 10 k, C<sub>T</sub> = 22 nF, T<sub>A</sub> = 25°C, unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
<b>LOGIC INPUTS</b>					
Input Threshold Voltage					V
High State	V <sub>IH</sub>	2.4	2.1	–	
Low State	V <sub>IL</sub>	–	1.4	1.0	
Hysteresis	V <sub>H</sub>	0.4	0.7	0.9	
Input Current					μA
High State (V <sub>IH</sub> = 5.0 V)	I <sub>IH</sub>				
φ <sub>A</sub>		– 40	– 60	– 80	
φ <sub>B</sub> , φ <sub>C</sub>		–	– 0.3	– 5.0	
Low State (V <sub>IL</sub> = 0 V)	I <sub>IL</sub>				
φ <sub>A</sub>		– 190	– 300	– 380	
φ <sub>B</sub> , φ <sub>C</sub>		–	– 0.3	– 5.0	

## MONOSTABLE AND OUTPUT SECTIONS

Output Voltage

High State

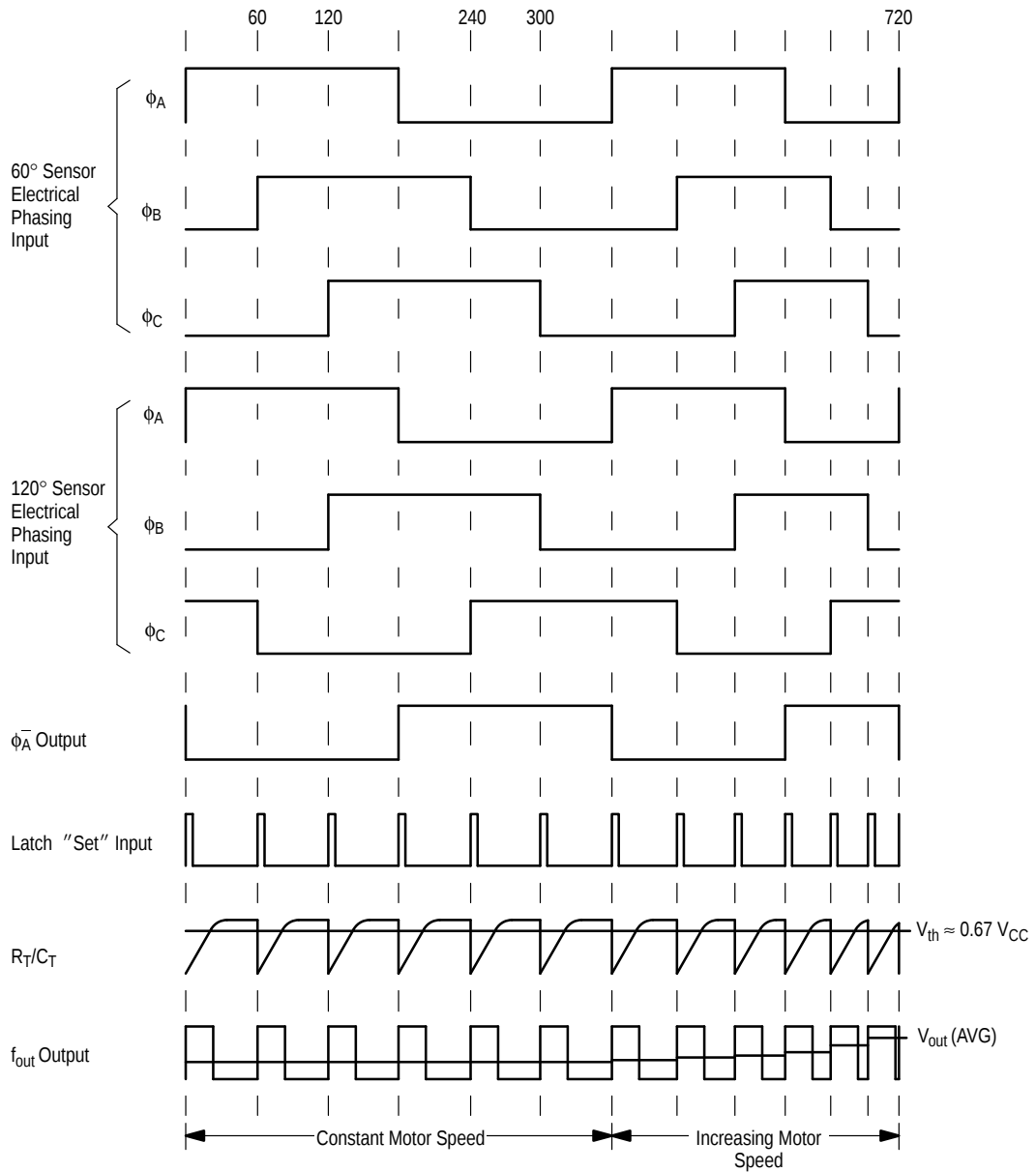
$$f_{out} (I_{source} = 5.0 \text{ mA})$$

$$\phi_A (I_{source} = 2.0 \text{ mA})$$

Low State

$$f_{out} (I$$

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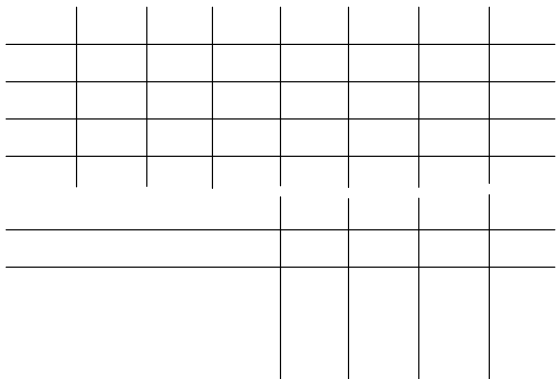


**Figure 1. Typical Three Phase, Six Step Motor Application**

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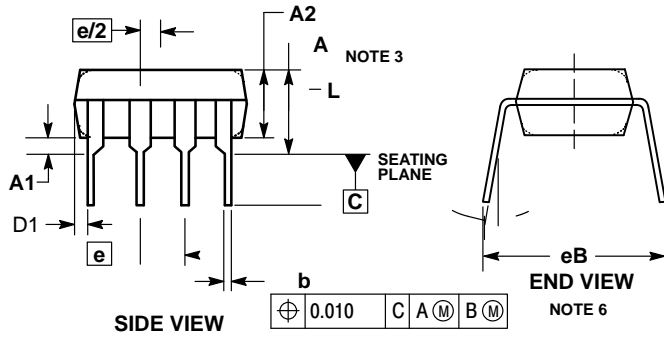
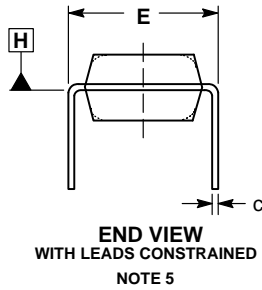
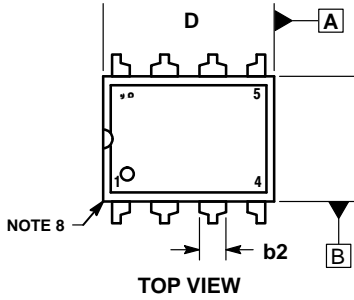
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## ORDERING INFORMATION

Device	Operating Temperature Range	Package	Shipping†
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**PDIP 8**  
CASE 626-05  
ISSUE P

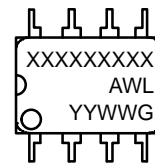
DATE 22 APR 2015



$\oplus$	0.010	C	A	M	B	M
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DIM	INCHES			
	MIN	MAX		
A	----	0.210		
A1	0.015	----		
A2	0.115	0.195	2.92	4.95
b	0.014	0.022		
C	0.008	0.014		
D	0.355	0.400		
D1	0.005	----		
E	0.300	0.325		
e	0.100 BSC			
L	0.115	0.150	2.92	3.81

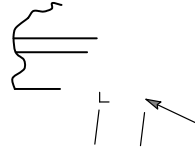
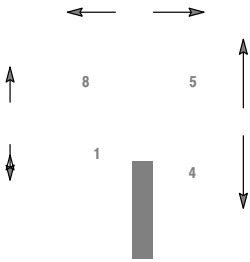
**GENERIC  
MARKING DIAGRAM\***



- XXXX = Specific Device Code
- A = Assembly Location
- WL = Wafer Lot
- YY = Year
- WW = Work Week
- G = Pb-Free Package

**SOIC 8 NB**  
CASE 751-07  
ISSUE AK

DATE 16 FEB 2011



SEATING  
PLANE







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