





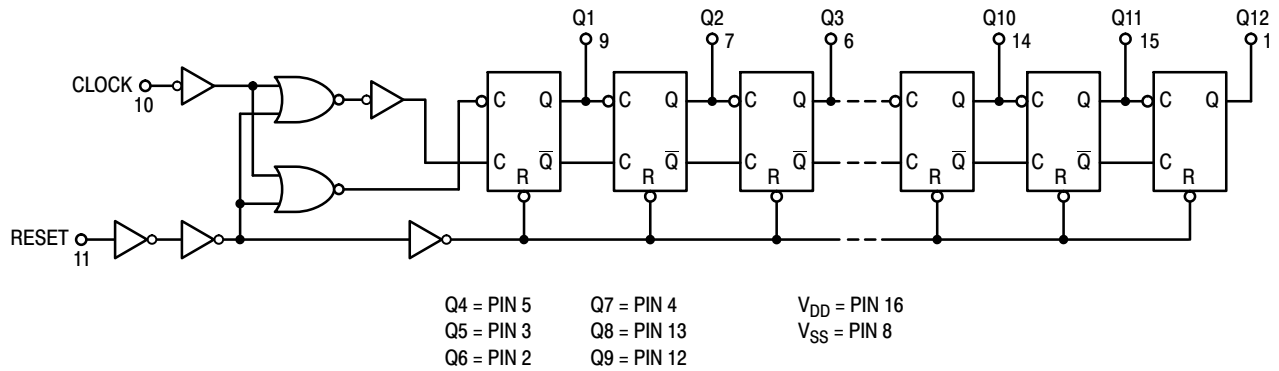
MC14040B

TRUTH TABLE

Clock	Reset	Output State
	0	No Change
	0	Advance to next state
X	1	All Outputs are low

X = Don't Care

LOGIC DIAGRAM



ORDERING INFORMATION

Device	Package	Shipping [†]
MC14040BDG	SOIC-16 (Pb-Free)	48 Units / Rail
MC14040BDR2G	SOIC-16 (Pb-Free)	2500 Units / Tape & Reel
NLV14040BDR2G*	SOIC-16 (Pb-Free)	2500 Units / Tape & Reel
MC14040BDTR2G	TSSOP-16 (Pb-Free)	2500 Units / Tape & Reel
NLV14040BDTR2G*	TSSOP-16 (Pb-Free)	2500 Units / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

*NLV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable.

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ELECTRICAL CHARACTERISTICS (Voltages Referenced to V_{SS})

MC14040B

SWITCHING CHARACTERISTICS (Note 5) ($C_L = 50 \text{ pF}$, $T_A = 25^\circ\text{C}$)

Characteristic	Symbol	V_{DD} Vdc	Min	Typ (Note 6)	Max	Unit
Output Rise and Fall Time T_{TLH} , $T_{THL} = (1.5 \text{ ns/pF}) C_L + 25 \text{ ns}$ T_{TLH} , $T_{THL} = (0.75 \text{ ns/pF}) C_L + 12.5 \text{ ns}$ T_{TLH} , $T_{THL} = (0.55 \text{ ns/pF}) C_L + 9.5 \text{ ns}$	t_{TLH} , t_{THL}	5.0 10 15	– – –	100 50 40	200 100 80	ns
Propagation Delay Time Clock to Q1 t_{PHL} , $t_{PLH} = (1.7 \text{ ns/pF}) C_L + 315 \text{ ns}$ t_{PHL} , $t_{PLH} = (0.66 \text{ ns/pF}) C_L + 137 \text{ ns}$ t_{PHL} , $t_{PLH} = (0.5 \text{ ns/pF}) C_L + 95 \text{ ns}$	t_{PLH} , t_{PHL}	5.0 10 15	– – –	260 115 80	520 230 160	ns
Clock to Q12 t_{PHL} , $t_{PLH} = (1.7 \text{ ns/pF}) C_L + 2415 \text{ ns}$ t_{PHL} , $t_{PLH} = (0.66 \text{ ns/pF}) C_L + 867 \text{ ns}$ t_{PHL} , $t_{PLH} = (0.5 \text{ ns/pF}) C_L + 475 \text{ ns}$		5.0 10 15	– – –	1625 720 500	3250 1440 1000	ns
Propagation Delay Time Reset to Q_n $t_{PHL} = (1.7 \text{ ns/pF}) C_L + 485 \text{ ns}$ $t_{PHL} = (0.86 \text{ ns/pF}) C_L + 182 \text{ ns}$ $t_{PHL} = (0.5 \text{ ns/pF}) C_L + 145 \text{ ns}$	t_{PHL}	5.0 10 15	– – –	370 155 115	740 310 230	ns
Clock Pulse Width	t_{WH}	5.0 10 15	385 150 115	140 55 38	– – –	ns
Clock Pulse Frequency	f_{cl}	5.0 10 15	– – –	2.1 7.0 10.0	1.5 3.5 4.5	MHz
Clock Rise and Fall Time	$t_{1.5}$					

MC14040B

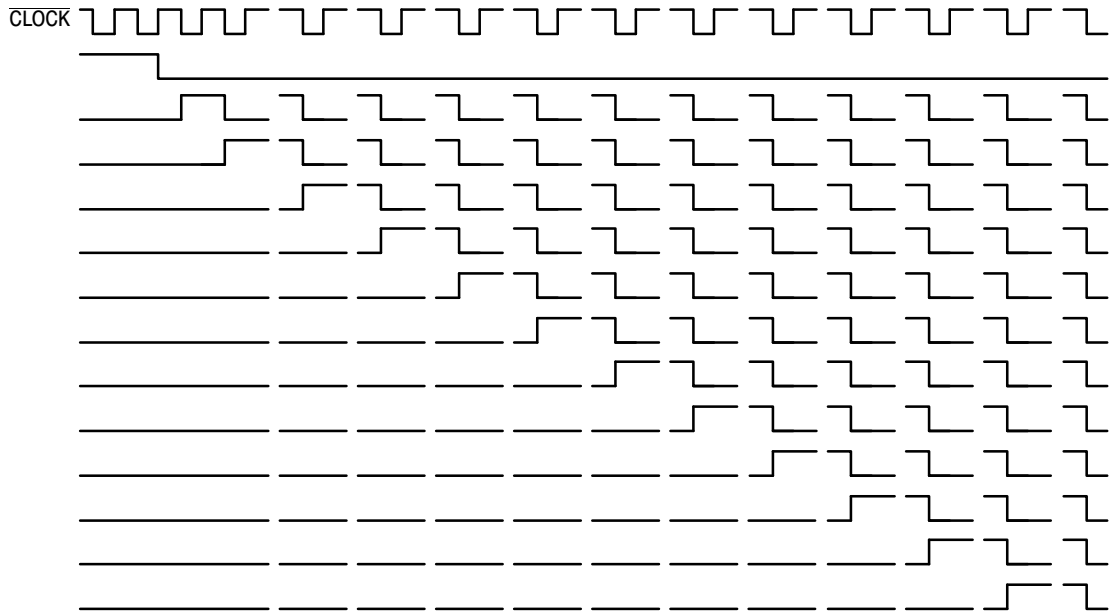


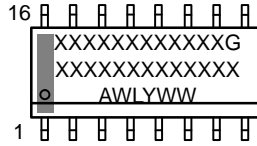
Figure 3. Timing Diagram

SOIC-16 9.90x3.90x1.50 1.27P
CASE 751B
ISSUE L

SOIC-16 9.90x3.90x1.50 1.27P
CASE 751B
ISSUE L

DATE 29 MAY 2024

**GENERIC
MARKING DIAGRAM***



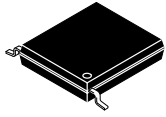
XXXXX = Specific Device Code
A = Assembly Location
WL = Wafer Lot
Y = Year
WW = Work Week
G = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

<p>S 1: 1. C C ✓ 2. BAS ✓ 3. ✓ 4. C C ✓ 5. ✓ 6. BAS ✓ 7. C C ✓ 8. C C ✓ 9. BAS ✓ 10. ✓ 11. C C ✓ 12. ✓ 13. BAS ✓ 14. C C ✓ 15. ✓ 16. C C ✓</p>	<p>S 2: 1. CA ✓ 2. A ✓ 3. C C ✓ 4. CA ✓ 5. CA ✓ 6. C C ✓ 7. A ✓ 8. CA ✓ 9. CA ✓ 10. A ✓ 11. C C ✓ 12. CA ✓ 13. CA ✓ 14. C C ✓ 15. A ✓ 16. CA ✓</p>	<p>S 3: 1. C C , #1 ✓ 2. BAS , #1 ✓ 3. , #1 ✓ 4. C C , #1 ✓ 5. C C , #2 ✓ 6. BAS , #2 ✓ 7. , #2 ✓ 8. C C , #2 ✓ 9. C C , #3 ✓ 10. BAS , #3 ✓ 11. , #3 ✓ 12. C C , #3 ✓ 13. C C , #4 ✓ 14. BAS , #4 ✓ 15. , #4 ✓ 16. C C , #4 ✓</p>	<p>S 4: 1. C C , #1 ✓ 2. C C , #1 ✓ 3. C C , #2 ✓ 4. C C , #2 ✓ 5. C C , #3 ✓ 6. C C , #3 ✓ 7. C C , #4 ✓ 8. C C , #4 ✓ 9. BAS , #4 ✓ 10. , #4 ✓ 11. BAS , #3 ✓ 12. BAS , #3 ✓ 13. BAS , #2 ✓ 14. BAS , #2 ✓ 15. BAS , #1 ✓ 16. , #1 ✓</p>
<p>S 5: 1. A , #1 ✓ 2. A , #1 ✓ 3. A , #2 ✓ 4. A , #2 ✓ 5. A , #3 ✓ 6. A , #3 ✓ 7. A , #4 ✓ 8. A , #4 ✓ 9. A , #4 ✓ 10. S C , #4 ✓ 11. A , #3 ✓ 12. S C , #3 ✓ 13. A , #2 ✓ 14. S C , #2 ✓ 15. A , #1 ✓ 16. S C , #1 ✓</p>	<p>S 6: 1. CA ✓ 2. CA ✓ 3. CA ✓ 4. CA ✓ 5. CA ✓ 6. CA ✓ 7. CA ✓ 8. CA ✓ 9. A ✓ 10. A ✓ 11. A ✓ 12. A ✓ 13. A ✓ 14. A ✓ 15. A ✓ 16. A ✓</p>	<p>S 7: 1. S C -C ✓ 2. C A () ✓ 3. C A () ✓ 4. A -C ✓ 5. C A () ✓ 6. C A () ✓ 7. C A () ✓ 8. S C -C ✓ 9. S C -C ✓ 10. C A () ✓ 11. C A () ✓ 12. C A () ✓ 13. A -C ✓ 14. C A () ✓ 15. C A () ✓ 16. S C -C ✓</p>	

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DESCRIPTION: SOIC-16 9.90X3.90X1.50 1.27P	PAGE 2 OF 2

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SCALE 2:1

TSSOP-16 WB
CASE 948F
ISSUE B

DATE 19 OCT 2006

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