

The MC14017B is a five-stage Johnson decade counter with built-in code converter. High speed operation and spike-free outputs are obtained by use of a Johnson decade counter design. The ten decoded outputs are normally low, and go high only at their appropriate decimal time period. The output changes occur on the positive-going edge of the clock pulse. This part can be used in frequency division applications as well as decade counter or decimal decode display applications.

### Features

- Fully Static Operation
- DC Clock Input Circuit Allows Slow Rise Times
- Carry Out Output for Cascading
- Divide-by-N Counting
- Supply Voltage Range = 3.0 Vdc to 18 Vdc
- Capable of Driving Two Low-Power TTL Loads or One Low-Power Schottky TTL Load Over the Rated Temperature Range
- Pin-for-Pin Replacement for CD4017B
- Triple Diode Protection on All Inputs
- NLV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable
- This Device is Pb-Free and is RoHS Compliant

### MAXIMUM RATINGS (Voltages Referenced to $V_{SS}$ )

Symbol	Parameter	Value	Unit
$V_{DD}$	DC Supply Voltage Range	-0.5 to +18.0	V
$V_{in}, V_{out}$	Input or Output Voltage Range (DC or Transient)	-0.5 to $V_{DD} + 0.5$	V
$I_{in}, I_{out}$	Input or Output Current (DC or Transient) per Pin	$\pm 10$	mA
$P_D$	Power Dissipation, per Package (Note 1)	500	mW
$T_A$	Ambient Temperature Range	-55 to +125	$^{\circ}\text{C}$

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## FUNCTIONAL TRUTH TABLE (Positive Logic)

Clock	$\overline{\text{Clock Enable}}$	Reset	Decode Output=n
0	X	0	n
X	1	0	n
X	X	1	Q0
	0	0	n+1
	X	0	n
X		0	n
1		0	n+1

## BLOCK DIAGRAM

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## ELECTRICAL CHARACTERISTICS (Voltages Referenced to $V_{SS}$ )

Characteristic	Symbol	$V_{DD}$ Vdc	-55°C		25°C			125°C		Unit
			Min	Max	Min	Typ (Note 2)	Max	Min	Max	
Output Voltage $V_{in} = V_{DD}$ or 0	"0" Level $V_{OL}$	5.0	-	0.05	-	0	0.05			
		10	-	0.05	-	0	0.05			
		15	-	0.05	-	0	0.05			
$V_{in} = 0$ or $V_{DD}$	"1" Level									

**MC14017B**

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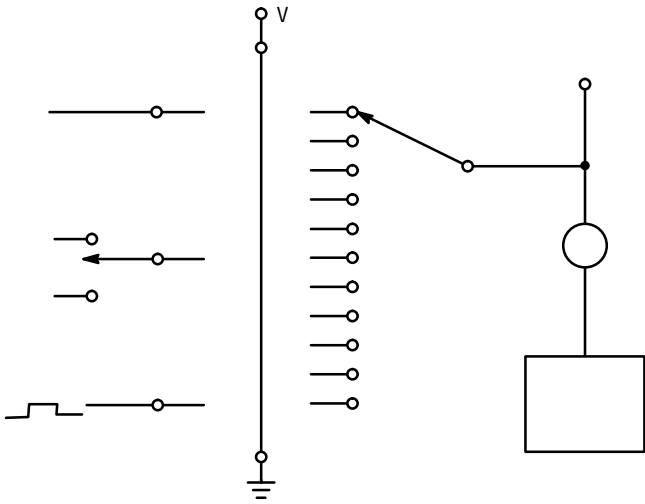


Figure 1. Typical Output Source and Output Sink Characteristics Test Circuit



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## ORDERING INFORMATION

Device	Package	Shipping†
MC14017BDG	SOIC-16 (Pb-Free)	48 Units / Rail
NLV14017BDG*	SOIC-16 (Pb-Free)	48 Units / Rail
MC14017BDR2G	SOIC-16 (Pb-Free)	2500 Units / Tape & Reel
NLV14017BDR2G*	SOIC-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.

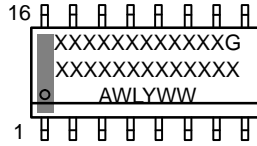
**SOIC-16 9.90x3.90x1.50 1.27P**  
CASE 751B  
ISSUE L



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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