

MC14028B

BLOCK DIAGRAM Q0 **o** 3 Q1 **o** 14 3-BIT Q2 **O** 2 **BINARY** OCTAL Q3 13 O-8421 DECODED **INPUTS** DECIMAL Q4 BCD OUTPUTS DECODED Q5 **INPUTS** OUTPUTS Q6 Q7 Q8 **-0** 9 Q9

 $V_{DD} = PIN 16$ $V_{SS} = PIN 8$

TRUTH TABLE

D	С	В	Α	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0
0	0	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	1	0	0	0	0	0	0	0	0	1	0
0	0	1	0	0	0	0	0	0	0	0	1	0	0
0	0	1	1	0	0	0	0	0	0	1	0	0	0
0	1	0	0	0	0	0	0	0	1	0	0	0	0
0	1	0	1	0	0	0	0	1	0	0	0	0	0
0	1	1	0	0	0	0	1	0	0	0	0	0	0
0	1	1	1	0	0	1	0	0	0	0	0	0	0
1	0	0	0	0	1	0	0	0	0	0	0	0	0
1	0	0	1	1	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0	0	0
1	0	1	1	0	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0	0	0
1	1	0	1	0	0	0	0	0	0	0	0	0	0
1	1	1	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	0	0	0	0	0	0	0	0	0	0

ORDERING INFORMATION

Device	Package	Shipping [†]
MC14028BDG	SOIC-16 (Pb-Free)	48 Units / Rail
MC14028BDR2G	SOIC-16 (Pb-Free)	2500 / Tape & Reel
NLV14028BDR2G*	SOIC-16 (Pb-Free)	2500 / Tape & Reel

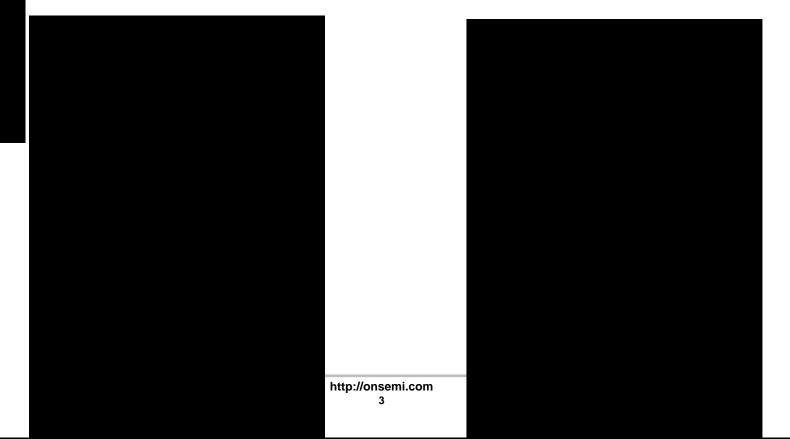
[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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

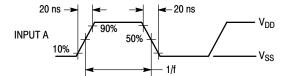
MC14028B

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

				-55	5°C		25°C		125	°C	
Characteristic		Symbol	V _{DD} Vdc	Min	Max	Min	Typ (Note 2)	Max	Min	Max	Unit
Output Voltage V _{in} = V _{DD} or 0	"0" Level	V _{OL}	5.0 10 15	- - -	0.05 0.05 0.05		0 0 0	0.05 0.05 0.05	- - -	0.05 0.05 0.05	Vdc
$V_{in} = 0 \text{ or } V_{DD}$	"1" Level	V _{OH}	5.0 10 15	4.95 9.95 14.95	- - -	4.95 9.95 14.95	5.0 10 15	- - -	4.95 9.95 14.95	- - -	Vdc
Input Voltage ($V_O = 4.5 \text{ or } 0.5 \text{ Vdc}$) ($V_O = 9.0 \text{ or } 1.0 \text{ Vdc}$) ($V_O = 13.5 \text{ or } 1.5 \text{ Vdc}$)		V _{IL}	5.0 10 15	- - -	1.5 3.0 4.0		2.25 4.50 6.75	1.5 3.0 4.0	- - -	1.5 3.0 4.0	Vdc
$(V_O = 0.5 \text{ or } 4.5 \text{ Vdc})$ $(V_O = 1.0 \text{ or } 9.0 \text{ Vdc})$ $(V_O = 1.5 \text{ or } 13.5 \text{ Vdc})$	"1" Level	V _{IH}	5.0 10 15	3.5 7.0 11		3.5 7.0 11	2.75 5.50 8.25	111	3.5 7.0 11		Vdc
Output Drive Current $ \begin{array}{l} (V_{OH}=2.5~\text{Vdc}) \\ (V_{OH}=4.6~\text{Vdc}) \\ (V_{OH}=4.6~\text{Vdc}) \\ (V_{OH}=9.5~\text{Vdc}) \\ (V_{OH}=13.5~\text{Vdc}) \end{array} $	Source	I _{OH}	5.0 5.0 10 15	-3.0 -0.64 -1.6 -4.2		-2.4 -0.51 -1.3 -3.4	-4.2 -0.88 -2.25 -8.8		-1.7 -0.36 -0.9 -2.4	- - -	mAdc
$(V_{OL} = 0.4 \text{ Vdc})$ $(V_{OL} = 0.5 \text{ Vdc})$ $(V_{OL} = 1.5 \text{ Vdc})$	Sink	I _{OL}	5.0 10 15	0.64 1.6 4.2	- - -	0.51 1.3 3.4	0.88 2.25 8.8	- - -	0.36 0.9 2.4	- - -	mAdc
Input Current		l _{in}	15	•	•	•	•	•	•	•	•



Inputs B, C, and D switching in respect to a BCD code.



All outputs connected to respective C_L loads. f in respect to a system clock.

Inputs A, B, and D low.

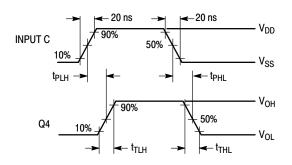
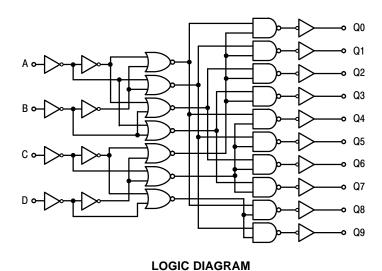


Figure 1. Dynamic Signal Waveforms



APPLICATIONS INFORMATION21 3 c1.395 0 08 WPPLID

MC14028B

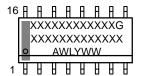
Inputs	Output Numbers

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

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

DATE 29 MAY 2024

GENERIC MARKING DIAGRAM*

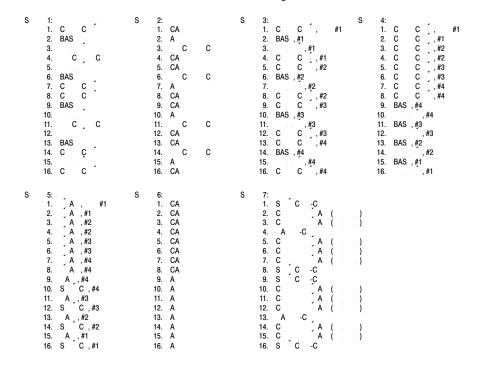


XXXXX = Specific Device Code

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.



DOCUMENT NUMBER:	98ASB42566B	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.					
DESCRIPTION:	SOIC-16 9.90X3.90X1.50 1	.27P	PAGE 2 OF 2				

onsemi and ONSEMI are trademarks of Semiconductor Components Industries, LLC dba onsemi or its subsidiaries in the United States and/or other countries. onsemi reserves the right to make changes without further notice to any products herein. onsemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. onsemi does not convey any license under its patent rights nor the rights of others.

