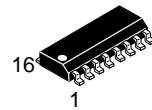
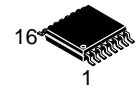


# 8-Bit Shift Register with Output Latches

## 74VHC595



SOIC-16  
 D SUFFIX  
 CASE 751BG

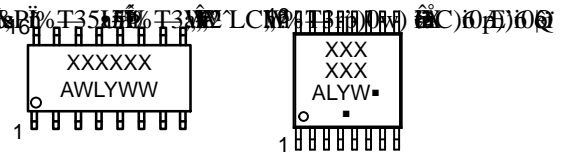


TSSOP-16  
 DT SUFFIX  
 CASE 948AH

### General Description

The VHC595 is an advanced high-speed CMOS Shift Register fabricated with silicon gate CMOS technology. It achieves the high-speed CMOS Data Access Rate of 180 ns (typical) at 5V. It has 8 D-type flip-flops with 3-state outputs. It is available in SOIC-16 and TSSOP-16 packages.

### MARKING DIAGRAMS



- XXX = Specific Device Code
- A = Assembly Location
- WL, L = Wafer Lot
- Y = Year
- WW, W = Work Week
- G, ■ = Pb Free Package

74VHC595



# 74VHC595

## Logic Diagram (Positive Logic)

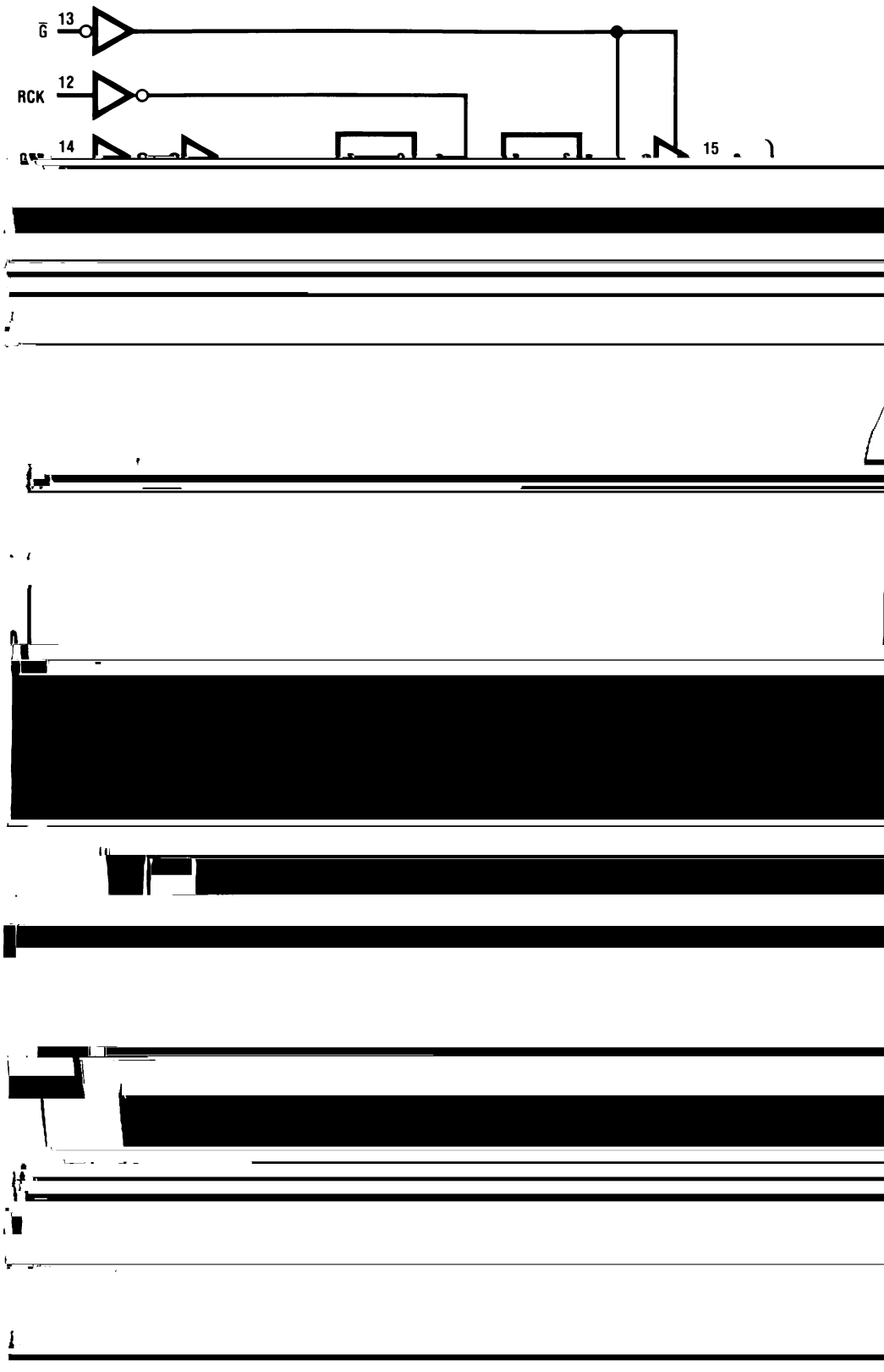


Figure 4. Logic Diagram

# 74VHC595

## MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V			

# 74VHC595

## DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	V <sub>CC</sub> (V)	Conditions	T <sub>A</sub> = 25°C			T <sub>A</sub> = -40°C to +85°C		Unit
				Min	Typ	Max	Min	Max	
V <sub>IH</sub>	HIGH Level Input Voltage	2.0		1.5			1.5		V
		3.0 5.5		0.7 × V <sub>CC</sub>			0.7 × V <sub>CC</sub>		
V <sub>IL</sub>	LOW Level Input Voltage	2.0				0.50		0.50	V
		3.0 5.5				0.3 × V <sub>CC</sub>		0.3 × V <sub>CC</sub>	
V <sub>OH</sub>	HIGH Level Output Voltage	2.0	V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> I <sub>OH</sub> = -50 μA	1.9	2.0		1.9		V
		3.0		2.9	3.0		2.9		
		4.5		4.4	4.5		4.4		
		3.0							

# 74VHC595

## AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	V <sub>CC</sub> (V)	Conditions	T <sub>A</sub> = +25°C			T <sub>A</sub> = -40°C to +85°C		Unit
				Min	Typ	Max	Min	Max	
t <sub>PLH</sub> , t <sub>PHL</sub>	Propagation Delay Time, RCK to Q <sub>A</sub> -Q <sub>H</sub>	3.3 ± 0.3		C <sub>L</sub> = 15 pF	7.7	11.9	1.0	13.5	ns
				C <sub>L</sub> = 50 pF	10.2	15.4	1.0	17.0	
		5.0 ± 0.5		C <sub>L</sub> = 15 pF	5.4	7.4	1.0	8.5	ns
				C <sub>L</sub> = 50 pF	6.9	9.4	1.0	10.5	





# 74VHC595

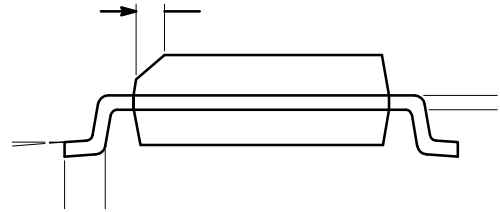
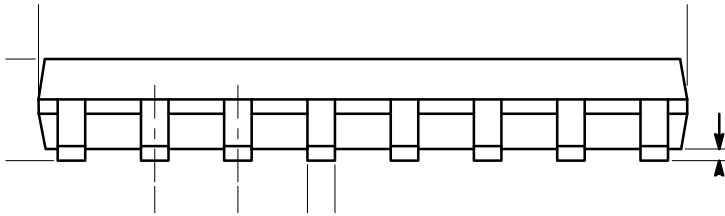
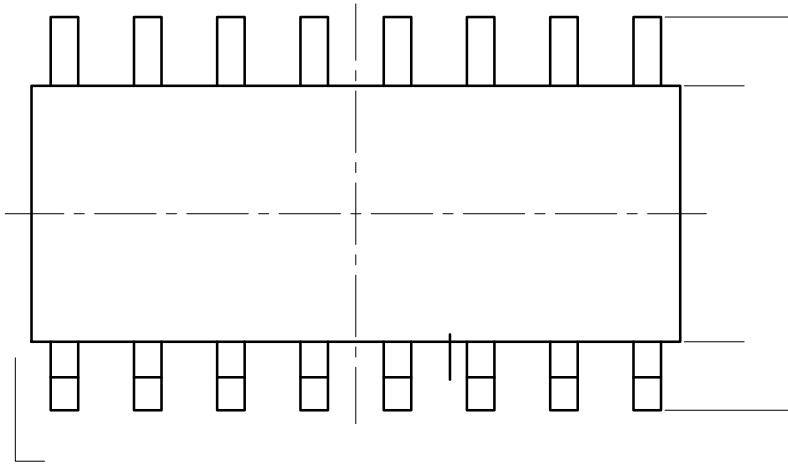
## ORDERING INFORMATION

Device	Marking	Package	Shipping†
74VHC595MX	VHC595G	SOIC 16	2500 Units / Tape & Reel
74VHC595MTCX	VHC 595	TSSOP 16	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, 150 mils  
CASE 751BG  
ISSUE O

DATE 19 DEC 2008



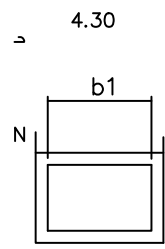
<b>DOCUMENT NUMBER:</b>	<b>98AON34275E</b>	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
<b>DESCRIPTION:</b>	<b>SOIC-16, 150 mils</b>	<b>PAGE 1 OF 1</b>

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.

TSSOP 16  
CASE 948AH  
ISSUE O

DATE 19 SEP 2008

SEE DETAIL "A" 0.19  
0.09



THIS TABLE FOR

S Y M B O L	MIN.		
A			
A <sub>1</sub>	0.05		
A <sub>2</sub>		J	0.95
b			0.30
b <sub>1</sub>			0.25
c			0.20
c <sub>1</sub>			0.16
D			
E <sub>1</sub>			4.50
C		0.65 BSC	
E		6.40 BSC	
L		0.60	0.70

SEE VARIATIONS  
| ——— | 8°

**onsemi**, **onsemi**, and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "**onsemi**" or its affiliates and/or subsidiaries in the United States and/or other countries. **onsemi** owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of **onsemi**'s product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). **onsemi** reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and **onsemi** makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or 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. Buyer is responsible for its products and applications using **onsemi**

---

---