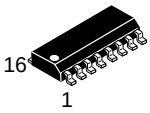
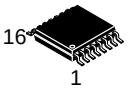
8-Bit Shift Register with Output Latches

74VHC595

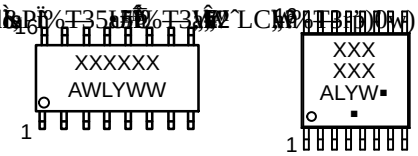


SOIC−16
D SUFFIX
CASE 751BG



TSSOP−16
DT SUFFIX
CASE 948AH

MARKING DIAGRAMS



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

General Description

The VHC595 is an advanced high−speed CMOS Shift Register fabricated with silicon gate CMOS technology. It achieves the high−

Logic Diagram (Positive Logic)

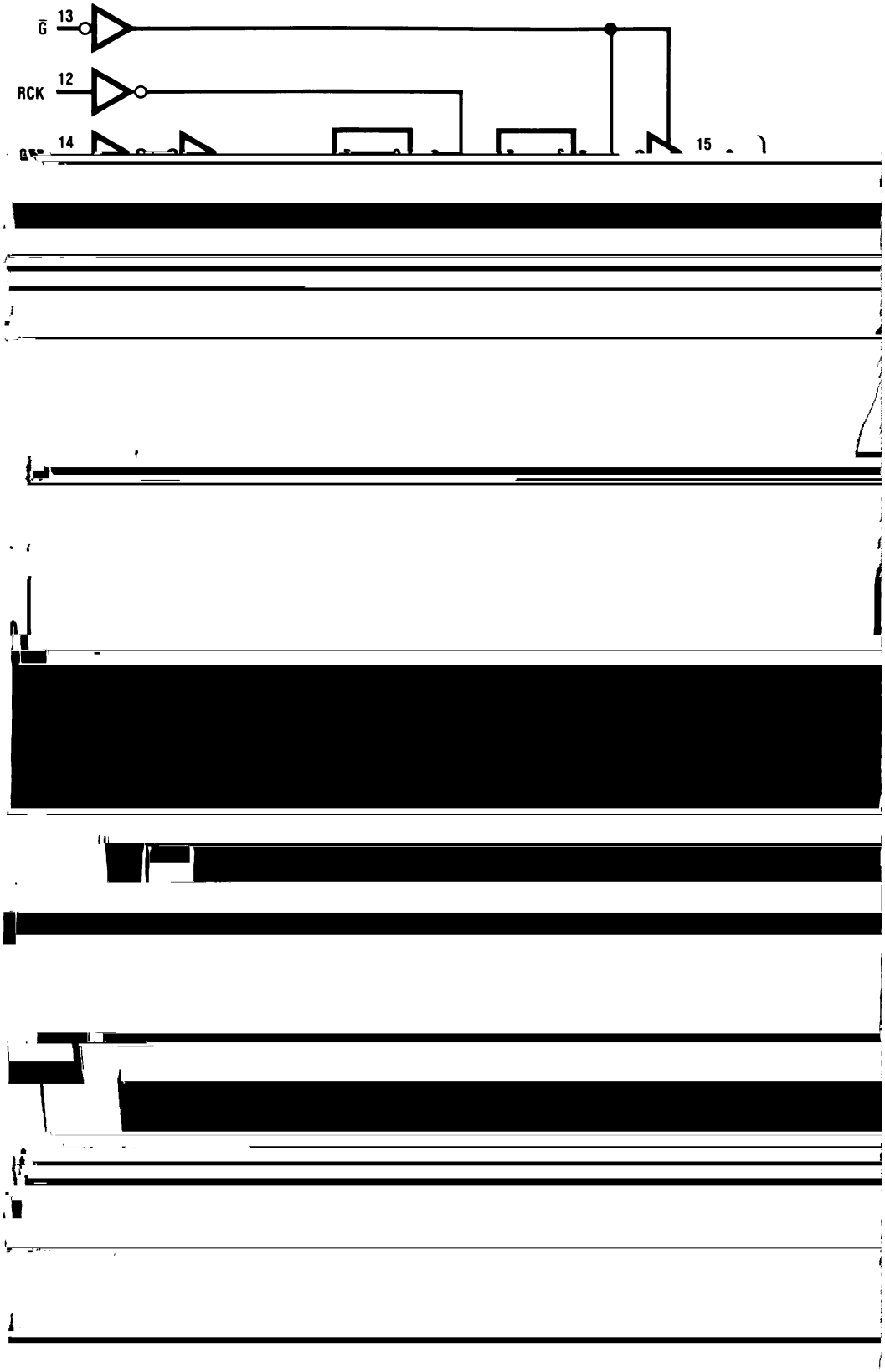


Figure 4. Logic Diagram

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V			

DC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	V_{CC} (V)	Conditions		T_A = 25°C			T_A = −40°C to +85°C		Unit
					Min	Typ	Max	Min	Max	
V_{IH}	HIGH Level Input Voltage	2.0			1.5			1.5		V
		3.0 5.5			0.7 × V_{CC}			0.7 × V_{CC}		
V_{IL}	LOW Level Input Voltage	2.0					0.50		0.50	V
		3.0 5.5					0.3 × V_{CC}		0.3 × V_{CC}	
V_{OH}	HIGH Level Output Voltage	2.0	V_{IN} = V_{IH} or V_{IL}	I_{OH} = –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		I_{OH} = –4 mA	V					

AC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	V_{CC} (V)	Conditions		T_A = +25°C			T_A = −40°C to +85°C		Unit
					Min	Typ	Max	Min	Max	
t_{PLH}, t_{PHL}	Propagation Delay Time, RCK to Q_A–Q_H	3.3 ± 0.3		C_L = 15 pF		7.7	11.9	1.0	13.5	ns
				C_L = 50 pF		10.2	15.4	1.0	17.0	
		5.0 ± 0.5		C_L = 15 pF		5.4	7.4	1.0	8.5	ns
				C_L = 50 pF		6.9	9.4	1.0	10.5	

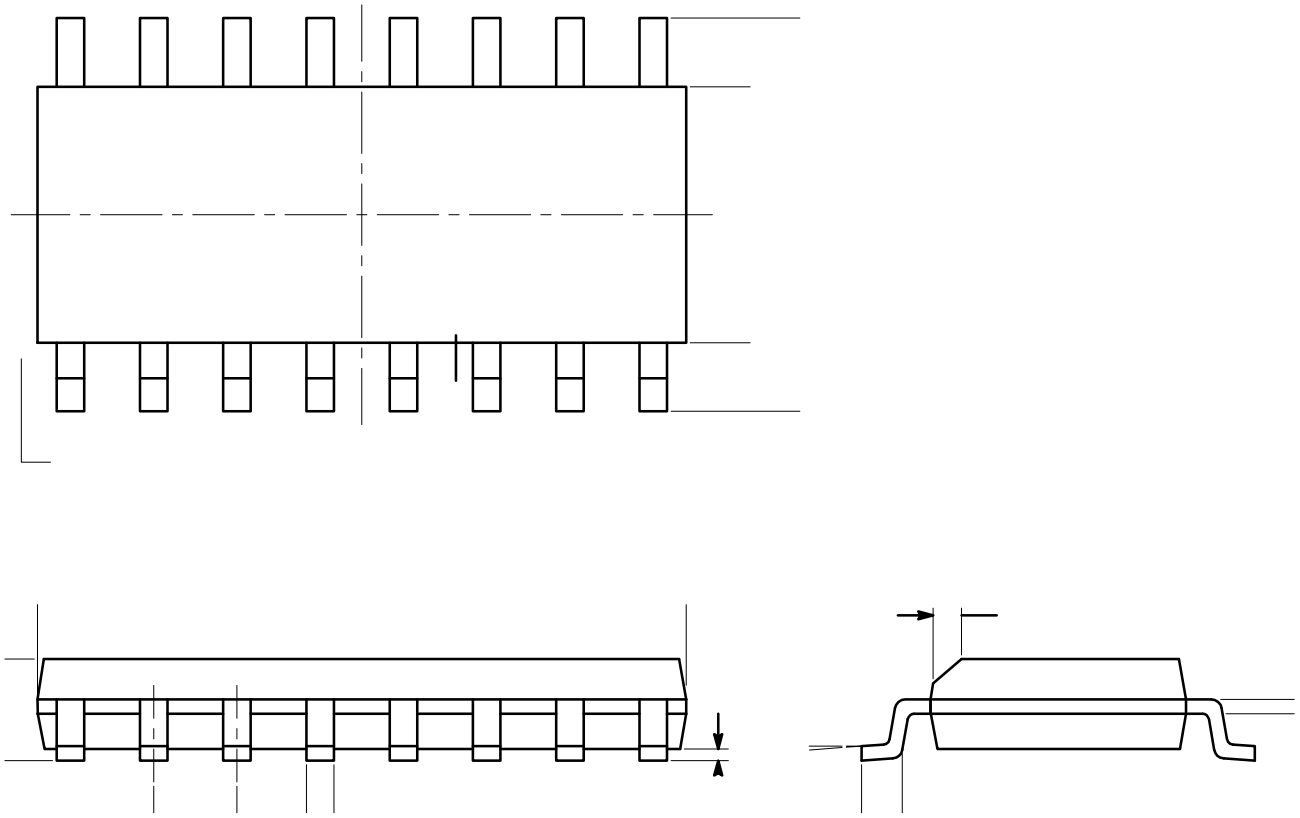
ORDERING INFORMATION

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 2006



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DESCRIPTION:	**SOIC−16, 150 mils**		**PAGE 1 OF 1**

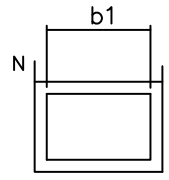
TSSOP 16
CASE 948AH
ISSUE O

DATE 19 SEP 2008

SEE DETAIL "A"

0.19
0.09

4.30



THIS TABLE FOR

SYMBOL	MIN.		
A			
A_1	0.05		
A_2			0.95
b			0.30
b1			0.25
c			0.20
c1			0.16
D			
E1			4.50
e		0.65 BSC	
E		6.40 BSC	
L		0.60	0.70
	SEE VARIATIONS		
		—	8°