

# 74HC595

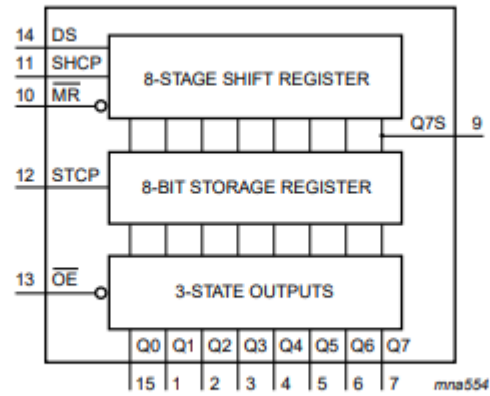


Fig 1. Functional diagram

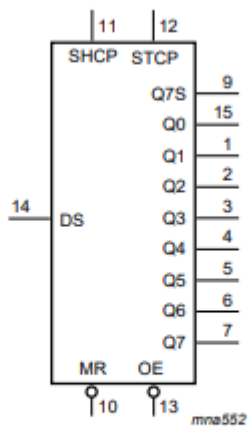


Fig 2. Logic symbol

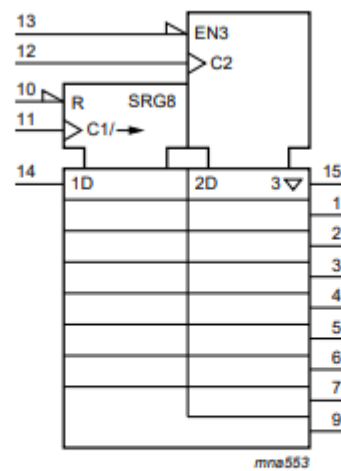


Fig 3. IEC logic symbol

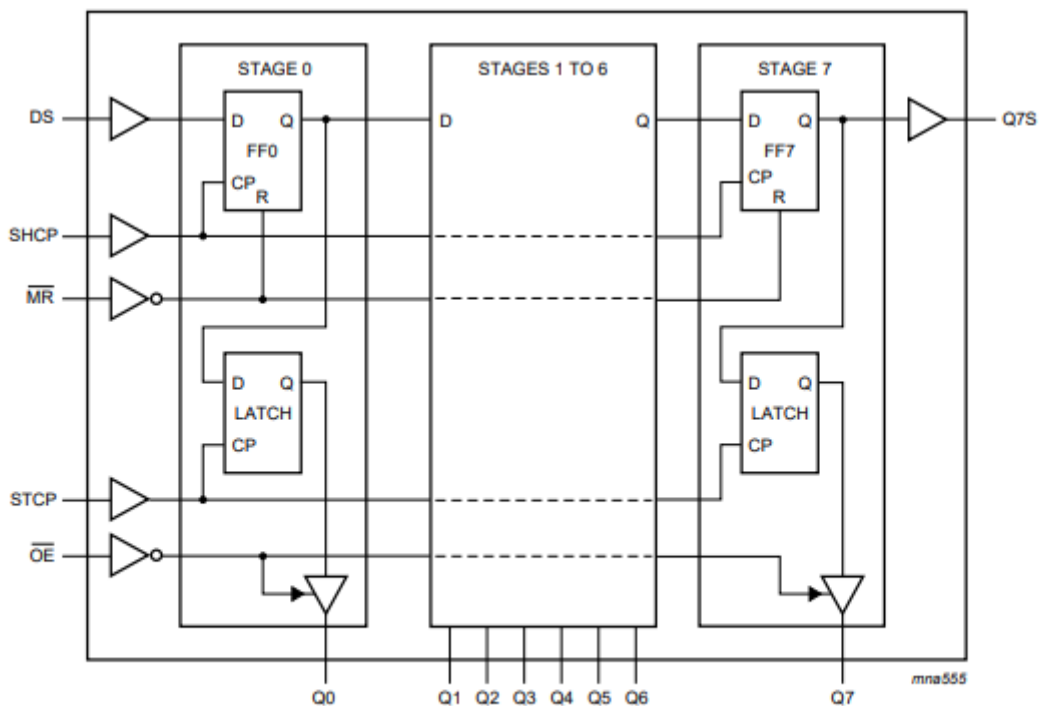


Fig 4. Logic diagram

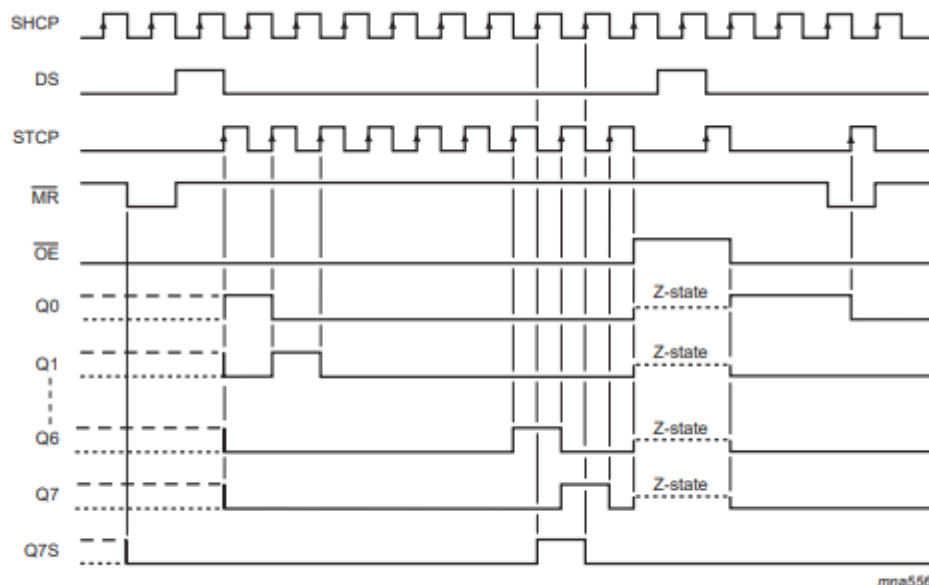


Fig 8. Timing diagram

## SN54HC165, SN74HC165 8-BIT PARALLEL-LOAD SHIFT REGISTERS

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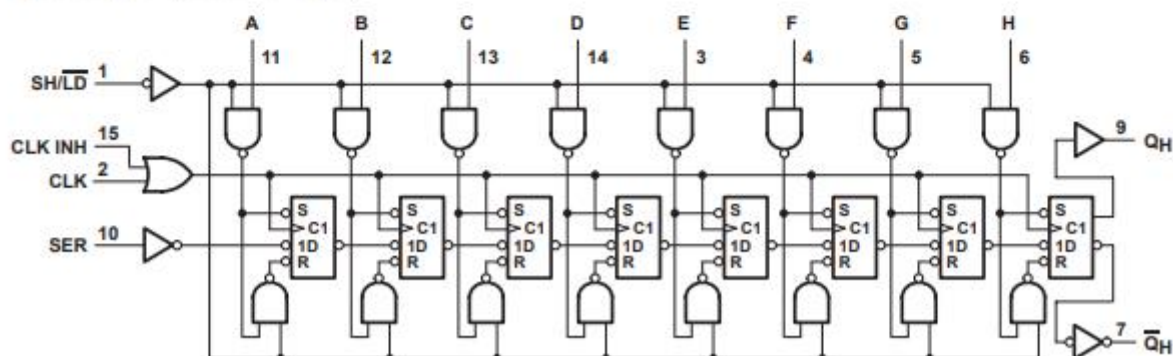
### description/ordering information (continued)

Clocking is accomplished by a low-to-high transition of the clock (CLK) input while SH/ $\overline{\text{LD}}$  is held high and CLK INH is held low. The functions of CLK and CLK INH are interchangeable. Since a low CLK and a low-to-high transition of CLK INH also accomplish clocking, CLK INH should be changed to the high level only while CLK is high. Parallel loading is inhibited when SH/ $\overline{\text{LD}}$  is held high. While SH/ $\overline{\text{LD}}$  is low, the parallel inputs to the register are enabled independently of the levels of the CLK, CLK INH, or serial (SER) inputs.

FUNCTION TABLE			
INPUTS			FUNCTION
SH/ $\overline{\text{LD}}$	CLK	CLK INH	
L	X	X	Parallel load
H	H	X	No change
H	X	H	No change
H	L	$\uparrow$	Shift $\uparrow$
H	$\uparrow$	L	Shift $\uparrow$

$\uparrow$  Shift = content of each internal register shifts toward serial output  $Q_H$ . Data at SER is shifted into the first register.

### logic diagram (positive logic)



Pin numbers shown are for the D, DB, J, N, NS, PW, and W packages.