# 8-BIT SHIFT REGISTER WITH 8-BIT OUTPUT REGISTER

## Description

The 74HC595 is an high speed CMOS device.

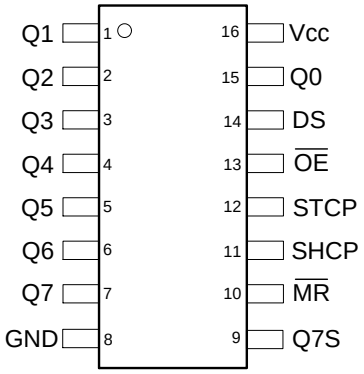
An eight bit shift register accpets data from the serial input (DS) on each positive transition of the shift register clock (SHCP). When asserted low the reset function ($\overline{MR}$) sets all shift register values to zero and is indepent of all clocks.

Data from the input serial shift register is placed in the output register with a rising pulse on the storages resister clock (STCP). With the output enable ($\overline{OE}$) asserted low the 3-state outputs Q0-Q7 become active and present th

All registers capture data on rising edge and change output on the falling edge. If both clocks are connected together the input shift register is always one clock cycle ahead of the output register.

## Pin Assignments

**(Top View)**




**SO-16 / TSSOP-16**

## Features

- Wide Supply Voltage Range from 2.0V to 6.0V
- Sinks or Sources 8mA at $V_{CC}$ = 4.5V
- CMOS Low Power Consumption
- Schmitt Trigger Action at All Inputs
- Inputs Accept up to 6.0V
- ESD Protection Tested per JESD 22
  - Exceeds 200-V Machine Model (A115-A)
  - Exceeds 2000-V Human Body Model (A114-A)
  - Exceeds 1000-V Charged Device Model (C101C)
- Latch-Up Exceeds 250mA per JESD 78, Class II
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Applications

- General Purpose Logic
- Serial to Parallel Data Conversion
- Capture and Hold Data for Extended Periods of Time
- Allow Simple Serial Bit Streams from a Microcontroller to Control as Many Peripheral Lines as Needed
- Wide Array of Products such as:
  - Computer Peripherals
  - Appliances
  - Industrial Control

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.