

Shift Register

and its usage in PIC C

What is Shift Register

There are three basic types:

- Serial In, Serial Out (SISO)
- Serial In, Parallel Out (SIPO)
- Parallel In, Serial Out (PISO)

Serial In, Paralel Out

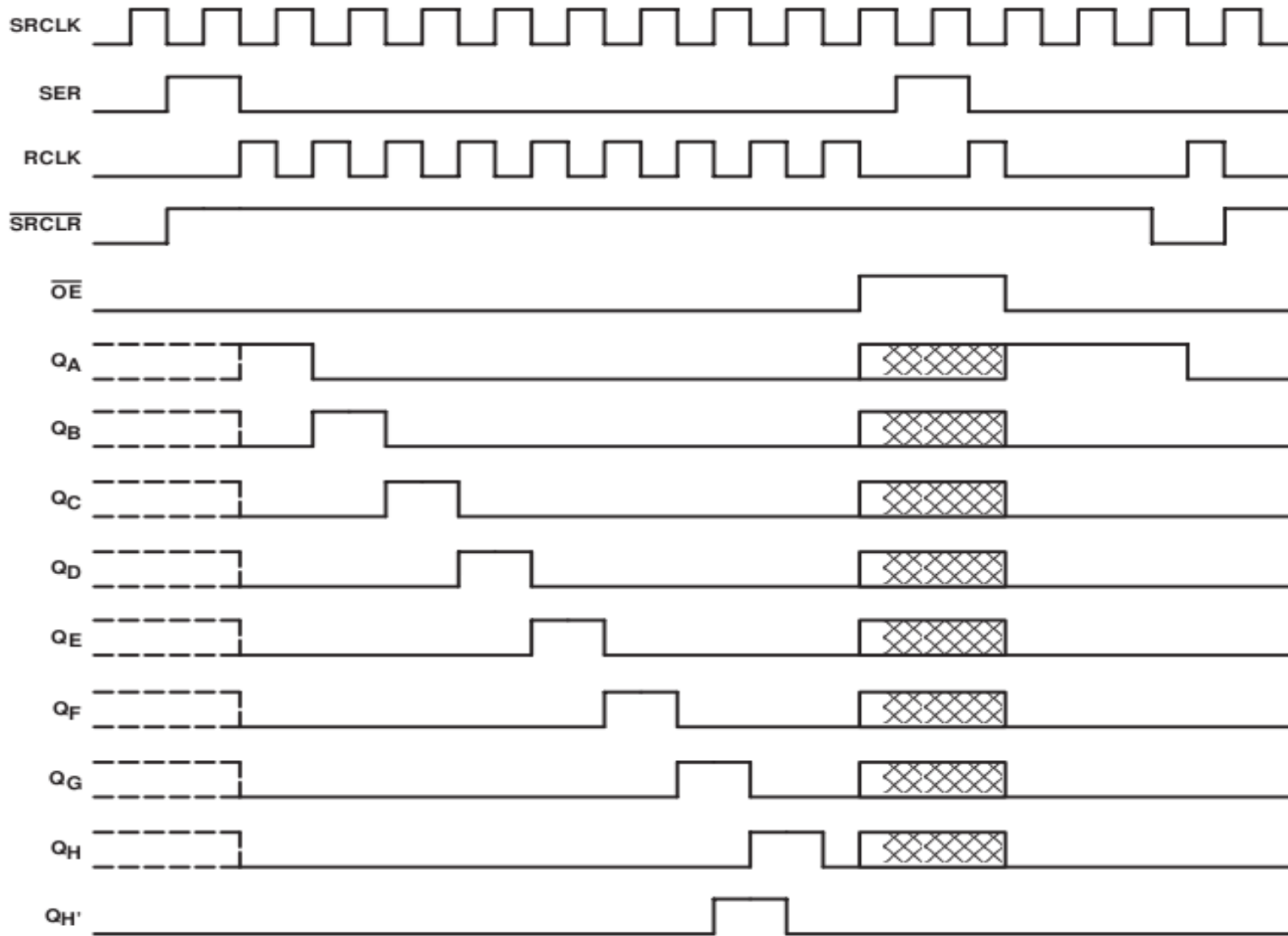
Family 74HC595

Features:

- 8-Bit Serial-In, Parallel-Out
- Wide Operating Voltage Range of 2 V to 6 V
- Typical tpd = 14 ns
- Shift Register Has Direct Clear

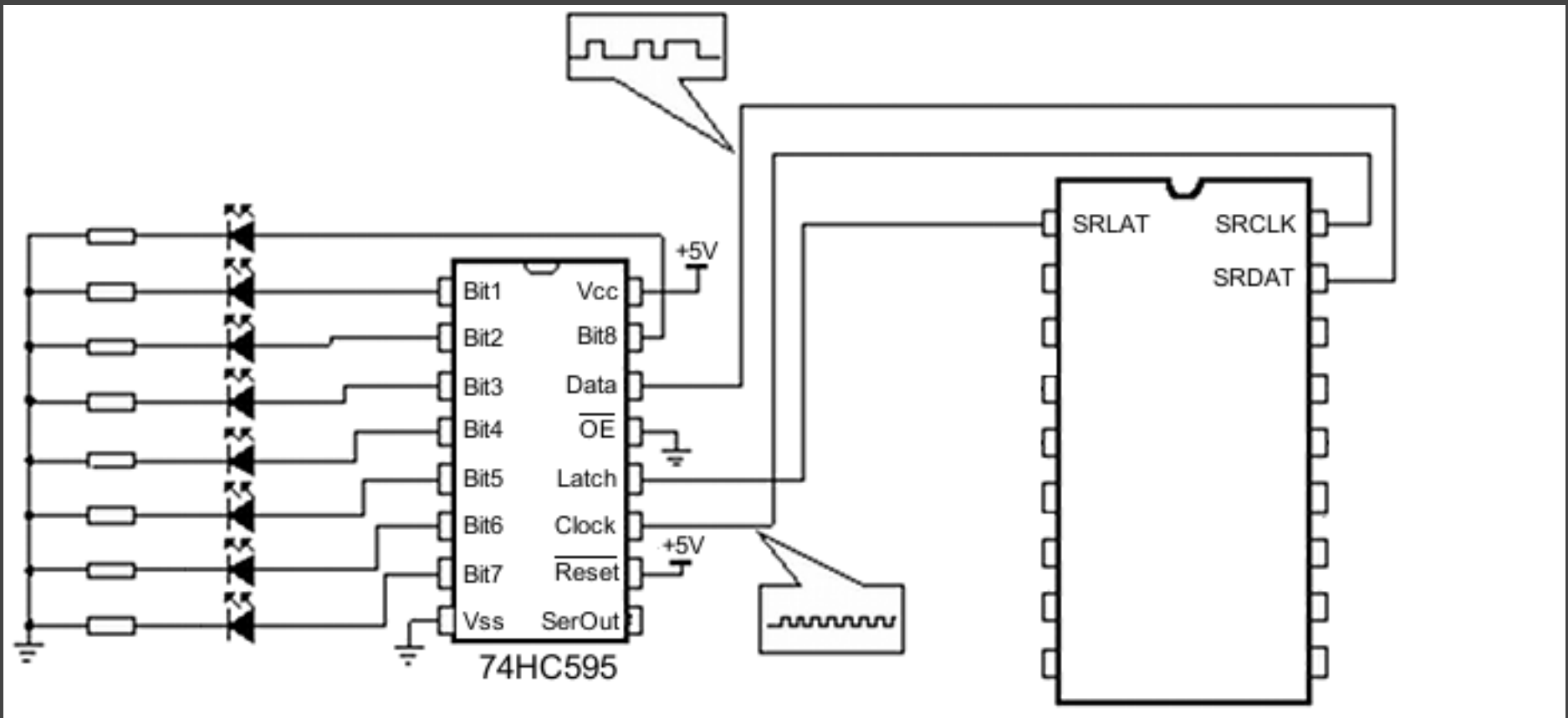
SISO Timing diagram

timing diagram



NOTE:  implies that the output is in 3-State mode.

Circuit example



Example in PIC C

```
void OutPORT(unsigned char data)
{
    unsigned char bits;
    for (bits=0x80; bits!=0; bits >>= 1)
    {
        if ((bits & data) == bits) // send Data
            SRDAT = 1;
        else
            SRDAT = 0;
        // Clock the data
        SRCLK = 1;
        SRCLK = 0;
    }
    // Latch the data
    SRLAT = 1;
    SRLAT = 0;
}
```