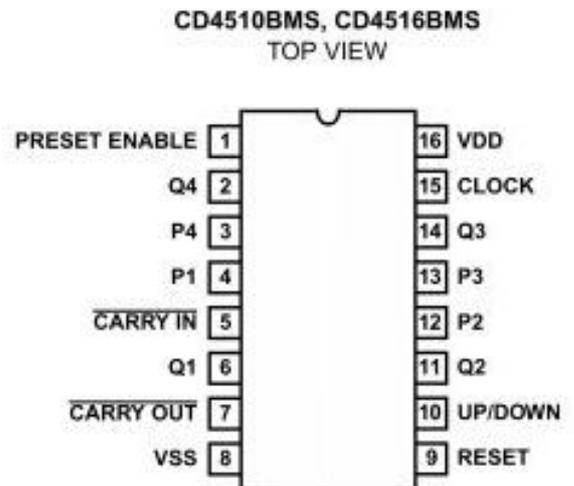


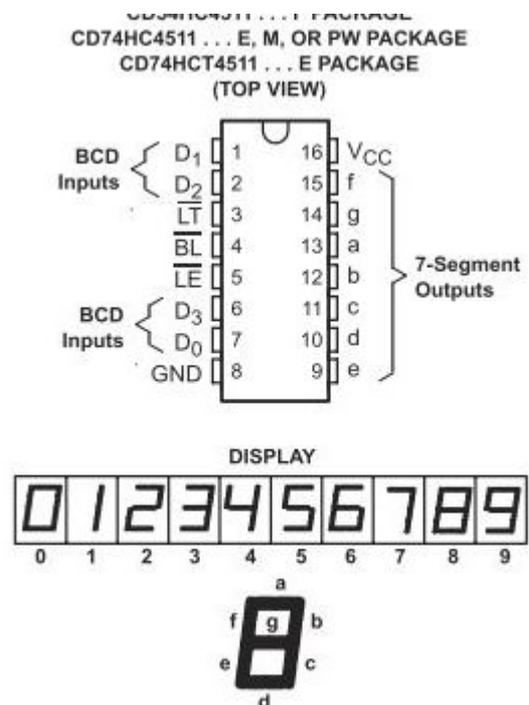
Annexe 1 : Data sheet CD4510

**CD4510BMS** Presettable BCD Up/Down Counter and the **CD4516BMS** Presettable Binary Up/Down Counter consist of four synchronously clocked D-type Flip-Flops (with a gating structure to provide T-type Flip-Flop capability) connected as Counters. These Counters can be cleared by a high level on the RESET line, and can be preset to any binary number present on the jam inputs by a high level on the PRESET ENABLE line. The **CD4510BMS** will count out of non-BCD Counter states in a maximum of two clock pulses in the up mode, and a maximum of four clock pulses in the down mode. If the CARRY IN input is held low, the Counter advances up or down on each positive-going clock transition. Synchronous cascading is accomplished by connecting all clock inputs in parallel and connecting the CARRY OUT of a less significant stage to the CARRY IN of a more significant stage. The **CD4510BMS** and **CD4516BMS** can be cascaded in the ripple mode by connecting the CARRY OUT to the clock of the next stage. If the UP/DOWN input changes during a terminal count, the CARRY OUT must be gated with the clock, and the UP/DOWN input must change while the clock is high. This method provides a clean clock signal to the subsequent counting stage. (See Figures 13, 14.) These devices are similar to types MC14510 and MC14516. The **CD4510BMS** and **CD4516BMS** are supplied in these 16-lead outline packages: **CD4510BMS's datasheet is the same as CD4510BMS**



Annexe 1 : Data sheet CD4511

High Speed Cmos Logic Bcd-to-7 Segment Latch/decoder/driver  
 The **CD54HC4511** **CD74HC4511** and **CD74HCT4511** are BCD-to-7 segment latch/decoder/drivers with four address inputs (D0-D3), an active-low blanking (BL) input, lamp-test (LT) input, and a latch-enable (LE) input that, when high, enables the Latches to store the BCD inputs. When LE is low, the Latches are disabled, making the outputs transparent to the BCD inputs. These devices have standard-size output Transistors but are capable of sourcing (at standard VOH levels) up to 7.5 mA at 4.5 V. The HC types can supply up to 10 mA at 6 V. **CD74HCT4511E's datasheet is the same as CD74HC4511**



CD4511 are BCD to 7 segment latch/decoder/drivers with four