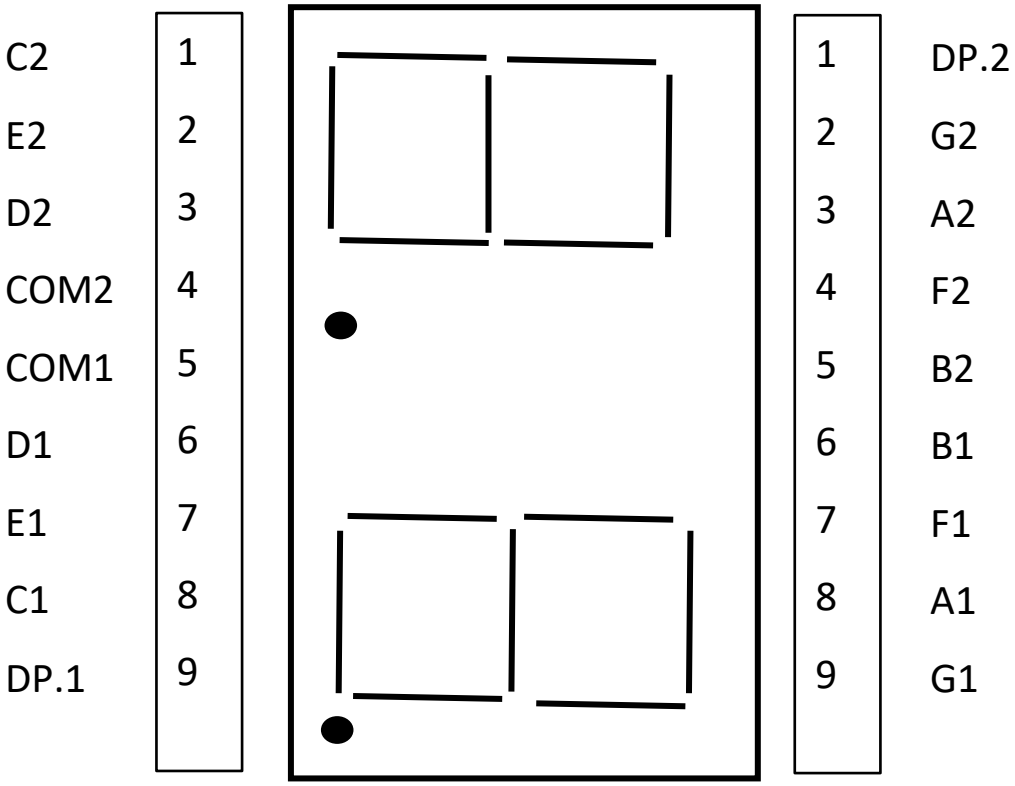
Seven Segment Display

To display the temperature that the sensor reads you will need a seven-segment display. The seven-segment display consists of seven LEDs (hence its name) arranged in a rectangular fashion. An additional 8th LED is sometimes used within the same package thus allowing the indication of a decimal point, (DP) when two or more 7-segment displays are connected to display numbers greater than ten.

Pins scheme of the 7-segment display:



These individually LED pins are labelled from ‘a’ to ‘g’ representing each individual LED. The other LED pins are connected and wired to form a common pin. So, by forward biasing the appropriate pins of the LED segments in a particular order, some segments will be light, and others will be dark allowing the desired character pattern of the number to be generated on the display.

This then allows you to display each of the ten decimal digits 0 through to 9 on the same 7-segment display. Our display works in **common cathode**, so all the cathode connections of the LED segments are joined together to logic “0” or ground. The individual segments are illuminated by application of a “HIGH”, or logic “1” signal via a current limiting resistor to forward bias the individual Anode terminals (a-g).

In the picture below the common cathode connection that was previously mentioned can be seen, there are the current limiting resistors on all the pin pairs, so when current flows through a resistor a segment will be illuminated. The 2 NPN transistors are used to command which digit will be illuminated.