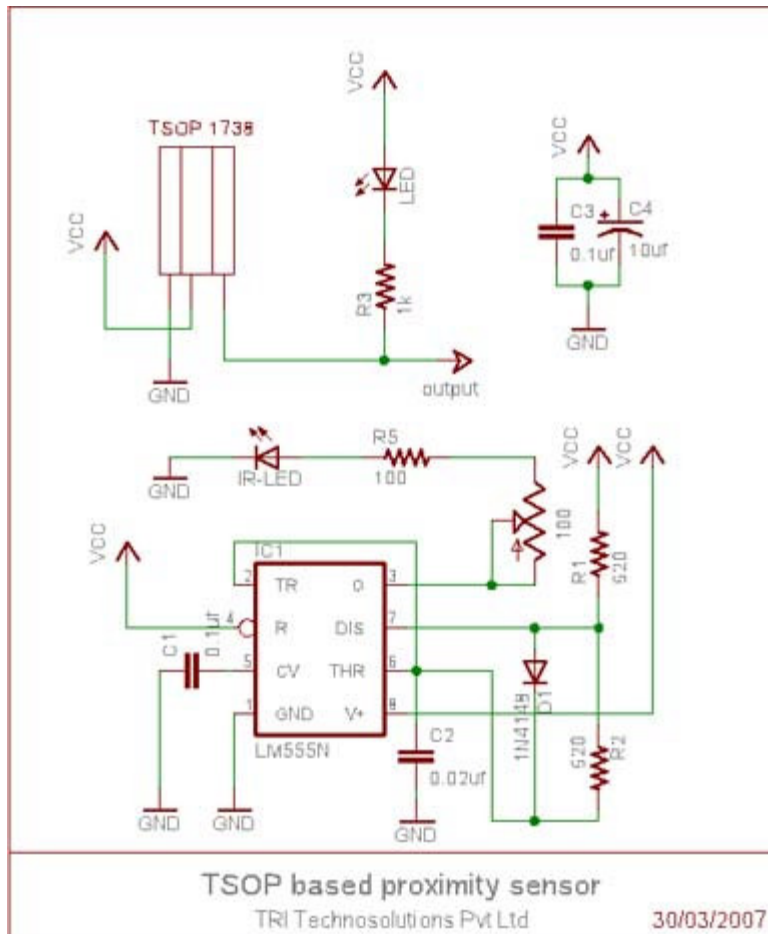


TSOP 1738 based proximity sensor



This is a simple yet effective IR proximity sensor built around the TSOP 1738 module. The TSOP module is commonly found at the receiving end of an IR remote control system; e.g., in TVs, CD players etc. These modules require the incoming data to be modulated at a particular frequency and would ignore any other IR signals. It is also immune to ambient IR light, so one can easily use these sensors outdoors or under heavily lit conditions.

Such modules are available for different carrier frequencies from 32 kHz to 42 kHz. In this particular proximity sensor, we will be generating a constant stream of square wave signal using IC555 centered at 38 kHz and would use it to drive an IR led. So whenever this signal bounces off the obstacles, the receiver would detect it and change its output. Since the TSOP 1738 module works in the active-low configuration, its output would normally remain high and would go low when it detects the signal (the obstacle).