

Schematic (Circuit Diagram)

#### COMPONENTS LIST

R1, R2: 10k RESISTORS  
 R3: 220 ohm RESISTOR  
 Q1: BC547 NPN TRANSISTOR  
 C1: 10uF CAPACITOR  
 U1: TL1831 INFRA-RED 38kHz SENSOR  
 D1: LIGHT EMITTING DIODE (LED)

#### HOW IT WORKS:

U1 DETECTS RAPIDLY CHANGING INFRA-RED LIGHT AND PROVIDES AN OUTPUT THAT DRIVES THE LED ON.  
 U1 REQUIRES LESS THAN 5V SO Q1 IS USED TO PROVIDE A LOWER VOLTAGE THAN 9V.

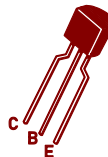
R1 AND R2 DIVIDE THE VOLTAGE  
 Q1 ACTS AS A VOLTAGE REGULATOR  
 C1 PROVIDES A STABLE VOLTAGE  
 U1 DETECTS RAPIDLY CHANGING LEVELS OF INFRA-RED LIGHT  
 R3 REDUCES THE OUTPUT CURRENT  
 D1 PROVIDES THE OUTPUT INDICATION

## Component Pinouts

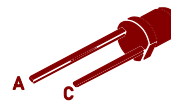
#### CAPACITOR PINOUT



#### BC547 PINOUT



#### LED PINOUT



#### TL1838 PINOUT



#### PINOUT NOTES:

BATTERY CONNECTOR: RED IS POSITIVE (+), BLACK IS NEGATIVE (0V)  
 RESISTORS CAN BE INSERTED IN EITHER DIRECTION (NO POLARITY)  
 TRANSISTOR: CONNECTIONS ARE COLLECTOR (C), BASE (B), EMITTER (E)  
 CAPACITOR: CONNECTIONS ARE POSITIVE (+) AND NEGATIVE (-)  
 LED: CONNECTIONS ARE ANODE (A) AND CATHODE (C)  
 TL1838: USE THE DIAGRAM TO SEE THE PINOUT

## Remote Control Detector

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