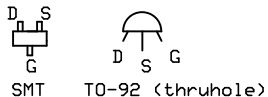


Q1 (the JFET) notes:

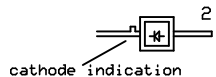
- 1) The artwork allows mounting the JFET on either side of the PC board and to use either a SMT or thru hole device
- 2) Connect the gate directly to the anode of the detector diode.
- 3) Drain current should be adjust for optimum performance by adjusting Radj
- 4) The 2N5457 with the values shown is a good starting point (Id approx. 5.8mA)
- 5) Other JFET's (J310, MPF102, etc.) may also work but the drain current may have to be reduced beyond the range of Radj. in which case, increase R5 to several hundred ohms.
- 6) The artwork for Radj allows for a fixed resistor or a trimpot such as:

Digikey 490-2881-ND
Mouser 652-3299X-1-203LF

Q1 top view
both types of package



BPW-34 photo diode notes:



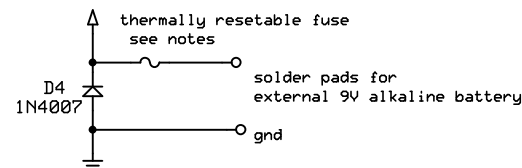
D1 PIN PHOTO DIODE
example: BPW-32

DigiKey stock no. 751-1015-ND
Mouser stock no. 782-BPW34
Newark Electronics stock 32C9150

- Q2 and Q3 notes:
1) use low noise, high B NPN transistors
example:

MPS-A18
DigiKey stock MPSA18-ND
Mouser stock: 512-MPSA18

top view



thermally resettable fuse notes:

- 1) This is artworked for an 0804 size SMT device
- 2) This is for reverse polarity protection only but important when attaching the battery in the dark
- 3) fuse spec: 15V, 1A max, .3A trip .02 sec.
example: Littlefuse 0805L020YR
Digikey stock no. F2770TR-ND
Mouser part no. 576-0805L020YR

KA70EI Photo Detector

drawn by Ron Jones, K7RJ Feb 2008
using ExpressSCH
www.pcbexpress.com for free software

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