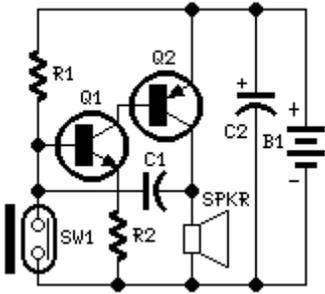


Field-strength meter

source: [RED Free Circuit Designs](#)

Small, portable, anti-bag-snatching unit

Also suitable for doors and windows control



Parts:

R1 _____ 330K 1/4W Resistor
R2 _____ 100R 1/4W Resistor

C1 _____ 10nF 63V Polyester or Ceramic Capacitor
C2 _____ 100 μ F 25V Electrolytic Capacitor

Q1 _____ BC547 45V 100mA NPN Transistor

Q2 _____ BC327 45V 800mA PNP Transistor

SW1 _____ Reed Switch and small magnet (See Notes)

SPKR _____ 8 Ohm Loudspeaker (See Notes)

B1 _____ 3V Battery (two A or AA cells wired in series etc.)

Device purpose:

This circuit, enclosed in a small plastic box, can be placed into a bag or handbag. A small magnet is placed close to the reed switch and connected to the hand or the clothes of the person carrying the bag by means of a tiny cord.

If the bag is snatched abruptly, the magnet loses its contact with the reed switch, SW1 opens, the circuit starts oscillating and the loudspeaker emits a loud alarm sound.

The device can be reverse connected, i.e. the box can be placed in a pocket and the cord connected to the bag.

This device can be very useful in signalling the opening of a door or window: place the box on the frame and the magnet on the movable part in a way that magnet and reed switch are very close when the door or window is closed.

Circuit operation:

A complementary transistor-pair is wired as a high efficiency oscillator, directly driving a small loudspeaker. Low part-count and 3V battery supply enable a very compact construction.

Notes:

- The loudspeaker can be any type, its dimensions are limited only by the box that will contain it.
- An on-off switch is unnecessary because the stand-by current drawing is less than 20mA.
- Current consumption when the alarm is sounding is about 100mA.
- If the circuit is used as anti-bag-snatching, SW1 can be replaced by a 3.5mm mono Jack socket and the magnet by a 3.5mm. mono Jack plug with its internal leads shorted. The Jack plug will be connected with the tiny cord etc.

- Do not supply this circuit with voltages exceeding 4.5V: it will not work and Q2 could be damaged. In any case a 3V supply is the best compromise.