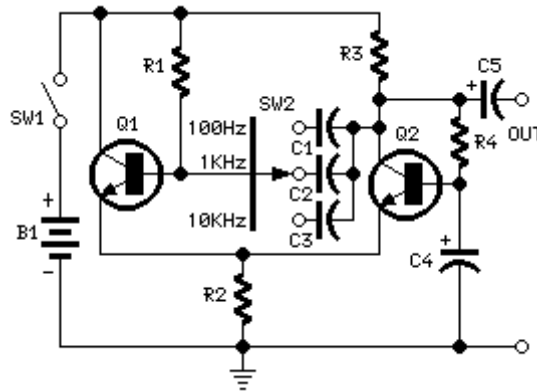


Simple Square wave Generator

Three switchable frequencies: 100Hz, 1KHz, 10KHz

1.5V battery operated, minimum parts counting

Circuit diagram:



Parts:

R1 _____ 560K 1/4W Resistor
 R2 _____ 680R 1/4W Resistor
 R3 _____ 2K2 1/4W Resistor
 R4 _____ 150K 1/4W Resistor

C1 _____ 12nF 63V Polyester Capacitor
 C2 _____ 1n2 63V Polyester Capacitor
 C3 _____ 120pF 63V Polystyrene or ceramic Capacitor
 C4,C5 _____ 10μF 25V Electrolytic Capacitors

Q1,Q2 _____ BC549C 25V 100mA NPN High-gain Low-noise Transistors

SW1 _____ SPST Slider Switch
 SW2 _____ 1 pole 3 ways Rotary Switch

B1 _____ 1.5V Battery (AA or AAA cell etc.)

Comments:

This simple circuit generates a good and stable 1V peak-to-peak square wave at 100Hz, 1KHz and 10KHz using a single 1.5V cell as power supply.

An useful feature of this circuit is that frequency changes can be obtained by switching only one capacitor at a time.

Current consumption is about 600μA.

Notes:

- If a precise 50% duty-cycle is needed, trim R1 and monitor the output wave form by means of an oscilloscope.
- A good 500mV peak-to-peak square wave is provided even at 1V supply.