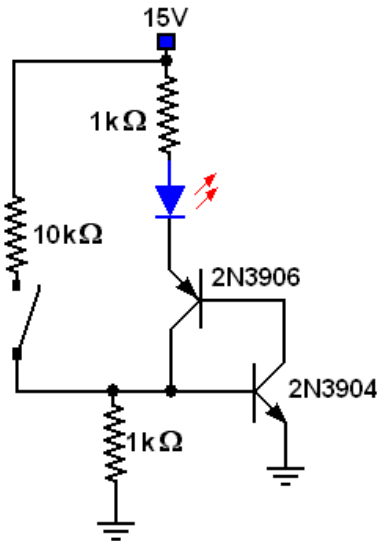


Electronics Lab

Transistor Latch

Principle of the SCR.

a) Connect the circuit shown in the figure (notice the pnp transistor):



b) Check that in the normal state the circuit is open (both transistors in cut-off).

c) Turn it on with a gate pulse.

d) Measure the voltage across the combination of transistors (emitter1-emitter2). Is it reasonable?

e) Reduce the supply voltage until it turns off and record this minimum value. Is it what you expected?

f) Set the supply voltage back at 15 V and turn the transistors on with a pulse. Now try to turn them off by first bypassing the transistors with a short circuit and then removing the short.

Additional experiment: Replace the power supply with the signal generator, set to amplitude of 15V, close the switch and connect the oscilloscope to observe the voltage across the 1-kohm resistor in series with the LED. You should be able to observe the truncated sinusoidal. The trigger point can be modified by changing the 1-kohm resistor connected to the base of the npn transistor. Try other values.