Push Button Activated Power Controller

A power circuit that controls a battery powered device, activated by a push button, that draws less than a microamp when inactive.

Required Features

- Push button may be pressed multiple times, even held down, but the circuit operates once only.
- Push button bounce eliminated.
- Device may only be powered up again after push button is released.
- Current draw in powered down state less than 1 microamp.
- Device and power control circuits isolated from each other to prevent device residual power affecting the power control circuit at switch off.

Circuit Operation

When the push button is pressed, the one shot monostable multivibrator U1, produces a high pulse at pin 8 for between 2 and 3 seconds.

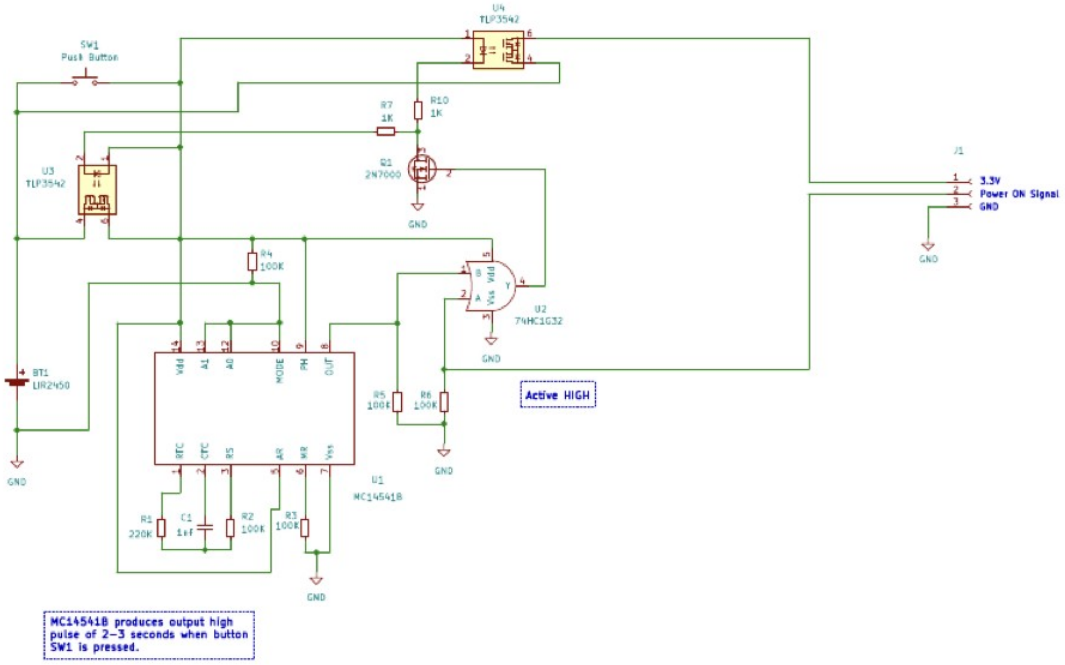
This high pulse is input to the OR gate, U2 pin 1, whose output, pin 3, drives Q1, an N-channel MOSFET.

Q1 acts as a switch, connecting the input (pin 2) of the MOSFET relays U4 and U5 to ground (via 1K current limiting resistors).

Power is sent to the device via connector J2 pin 1.

During the initial 2 to 3 three seconds that power is applied to the device, the device has time to initialise itself and send a high signal (pin 2 of J2) to the other input of the OR gate, U2 pin 2. This keeps Q1 switched on whilst the device does it's work.

When the device has finished it's cycle, it resets the signal, thereby turning Q1 off and cutting the power.
(It is assumed that the device will be active for more than 3 seconds).



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