Simple RGB LED Serial Controller

Note:
12V supply must be regulated DC

Components
- R1 100K 1/4w 5%
- R2 1K 1/4w 5%
- R3 1K 1/4w 5%
- C1 100nF ceramic
- C2 22µF 16V tantalum
- D1 1N4148
- Q1 2N7000
- U1 PIC12F627 / 675 / 683
  (requires programming with firmware)
- U2 78L05
- SW1 6mm x 6mm tactile pcb switch
  e.g. Omron B3F series or similar

TxDo
Asynchronous serial frame
1 Start, 8 Data, 1 stop
2,400 bits per second

PWM data is sent in 5 frame packets

- Start frame always contains 0x81
- Checksum frame is the 2's compliment sum of the data in the previous 4 frames
- Red, Green and Blue PWM values range from 0x00 to 0xFF