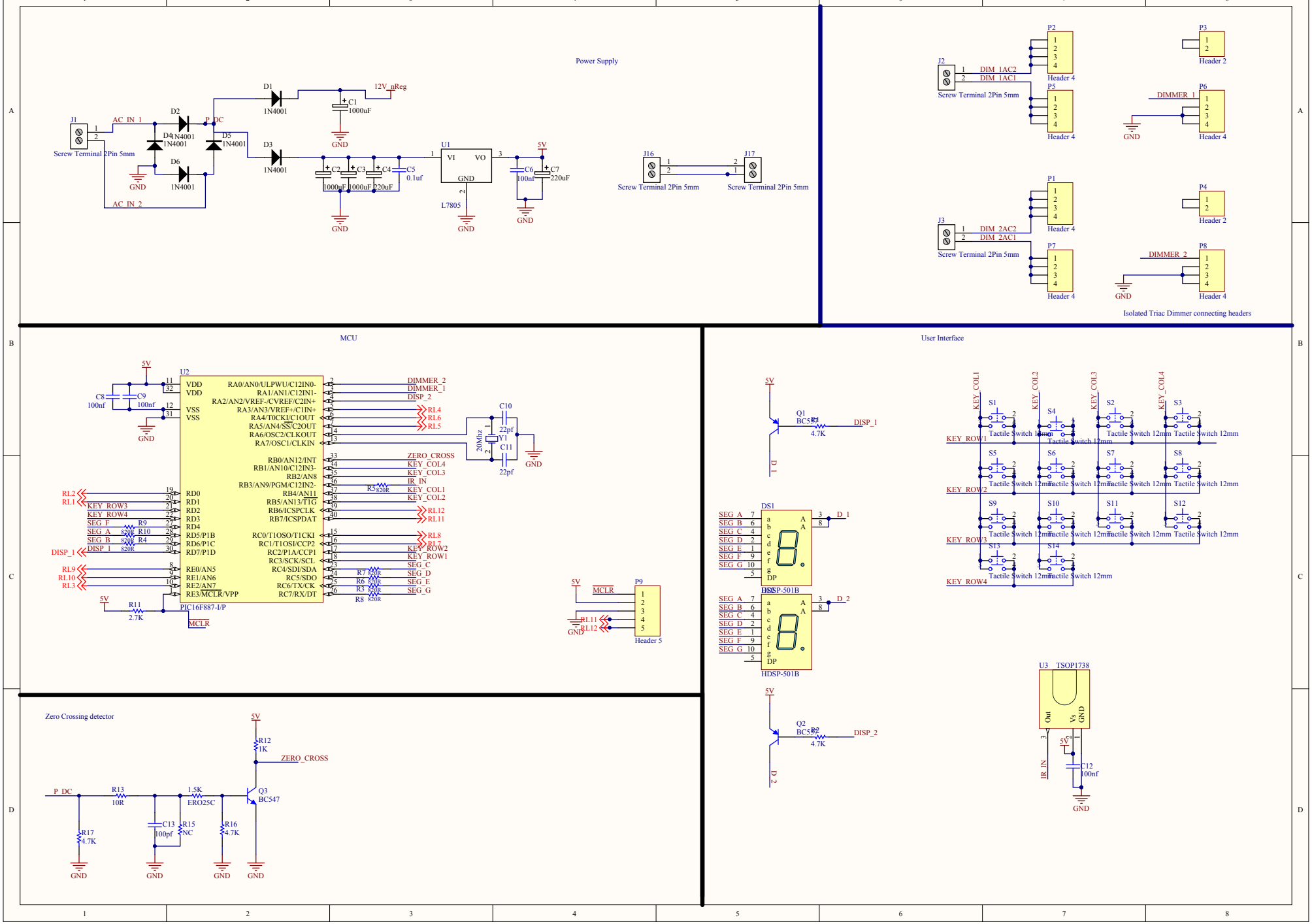
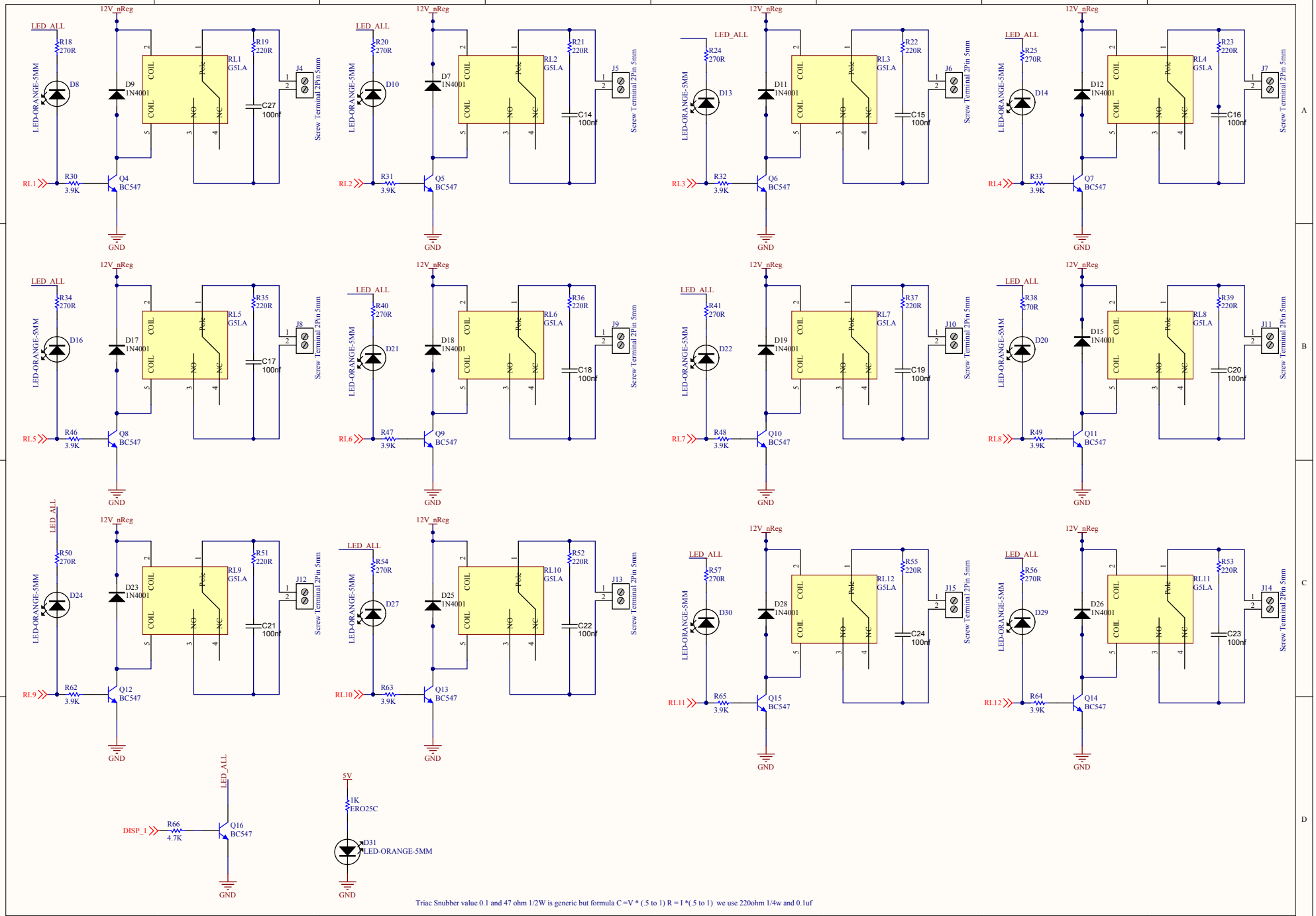
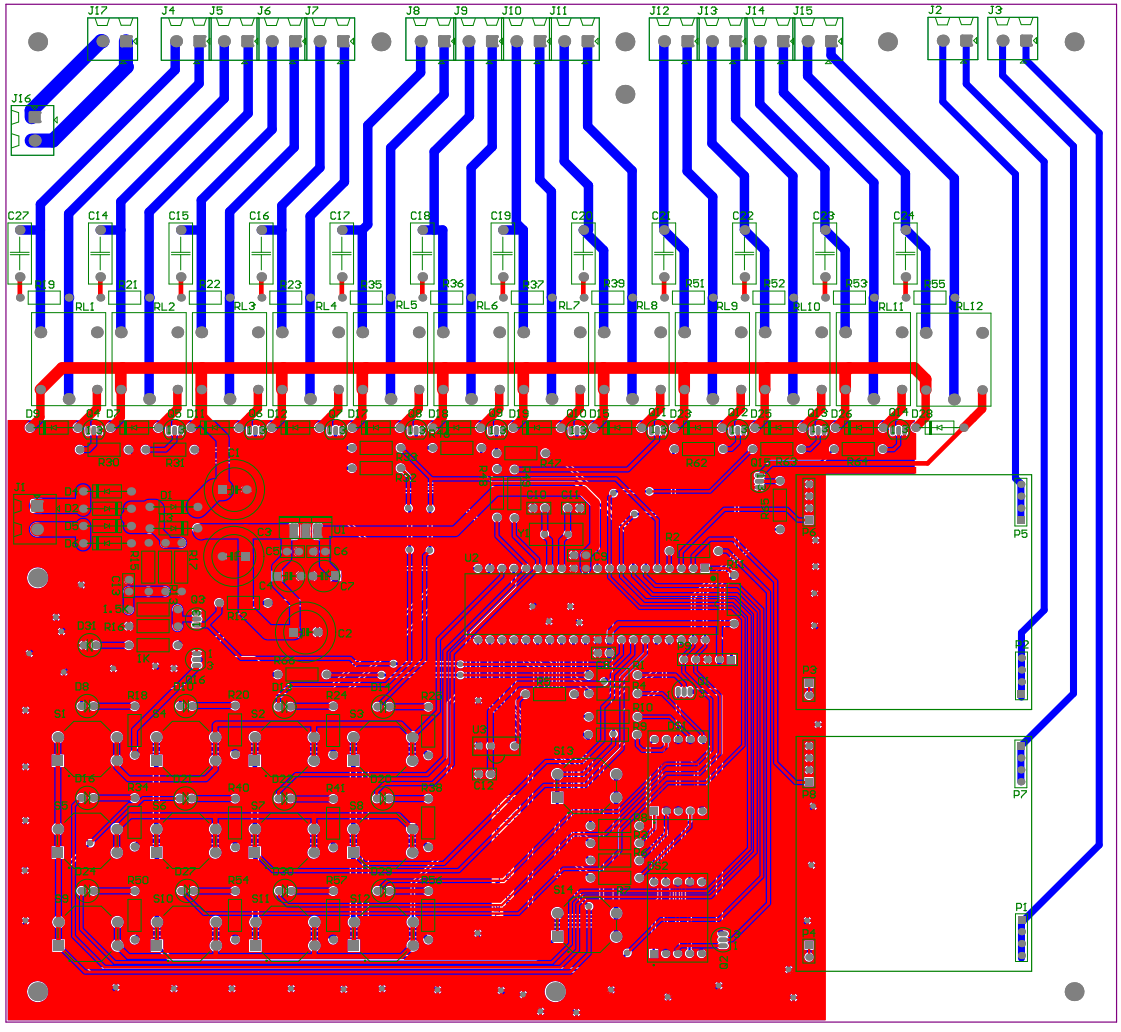

Power Supply
J1
Screw Terminal 2Pin 5mm
AC_IN_1
AC_IN_2
D1
D2
D3
D4
D5
D6
1N4001
P_DC
12V_nReg
C1
1000uF
C2
1000uF
C3
1000uF
C4
220uF
C5
0.1uf
U1
VI
VO
GND
L7805
5V
C6
100nf
C7
220uF
J16
J17
Screw Terminal 2Pin 5mm
GND
Isolated Triac Dimmer connecting headers
J2
J3
DIM_1AC2
DIM_1AC1
DIM_2AC2
DIM_2AC1
P1
P2
P3
P4
P5
P6
P7
P8
Header 4
Header 2
DIMMER_1
DIMMER_2
MCU
U2
PIC16F887-I/P
C8
100nf
C9
100nf
C10
22pf
C11
22pf
Y1
20Mhz
DIMMER_2
DIMMER_1
DISP_2
RL4
RL6
RL5
ZERO_CROSS
KEY_COL4
KEY_COL3
IR_IN
KEY_COL1
KEY_COL2
RL12
RL11
RL8
RL7
KEY_ROW2
KEY_ROW1
SEG_C
SEG_D
SEG_E
SEG_G
RL2
RL1
KEY_ROW3
KEY_ROW4
SEG_F
SEG_A
SEG_B
DISP_1
RL9
RL10
RL3
R5 820R
R7 820R
R6 820R
R3 820R
R8 820R
R9 820R
R10 820R
R4 820R
R11 2.7K
MCLR
P9
Header 5
User Interface
Q1
BC547
R1
4.7K
DISP_1
D_1
DS1
HDSP-501B
D_2
Q2
R2
DISP_2
KEY_COL1
KEY_COL2
KEY_COL3
KEY_COL4
KEY_ROW1
KEY_ROW2
KEY_ROW3
KEY_ROW4
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
Tactile Switch 12mm
U3
TSOP1738
Out
Vs
GND
IR_IN
C12
100nf
Zero Crossing detector
R12
1K
ZERO_CROSS
P_DC
R13
10R
1.5K
ERO25C
Q3
BC547
R17
4.7K
C13
100pf
R15
NC
R16
4.7K



Triac Snubber value 0.1 and 47 ohm 1/2W is generic but formula C =V * (.5 to 1) R = I *(.5 to 1) we use 220ohm 1/4w and 0.1uf


J17
J4
J5
J6
J7
J8
J9
J10
J11
J12
J13
J14
J15
J2
J3
J16
C27
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
RL1
RL2
RL3
RL4
RL5
RL6
RL7
RL8
RL9
RL10
RL11
RL12
P5
P2
P7
P1