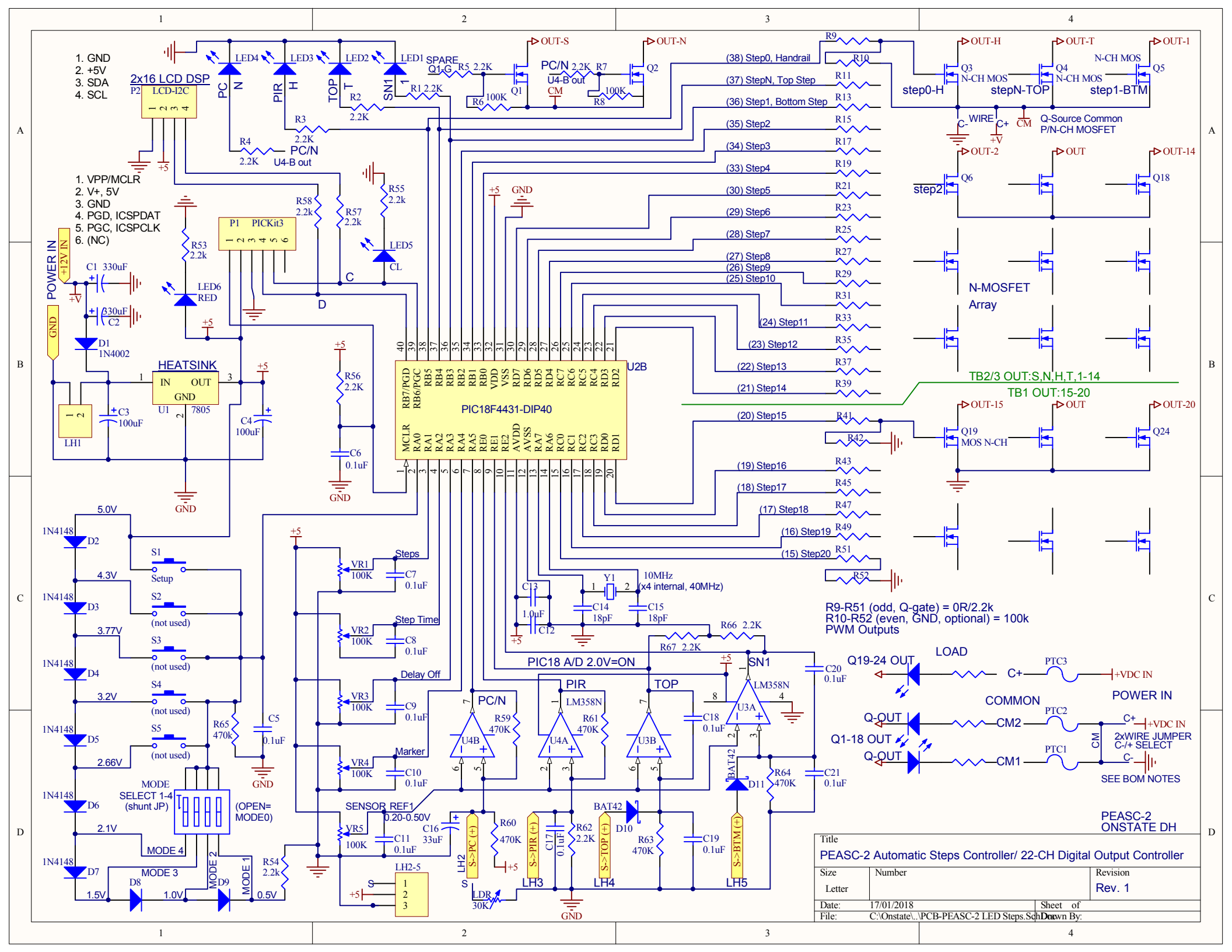
1. GND
2. +5V
3. SDA
4. SCL
2x16 LCD DSP
P2 LCD-I2C
LED4 LED3 LED2 LED1
PC N
PIR H
TOP T
SN1 1
SPARE
Q1-G R5 2.2K
R1 2.2K
R6 100K
Q1
OUT-S
OUT-N
PC/N 2.2K R7
U4-B out
CM
100K R8
Q2
R2 2.2K
R3 2.2K
R4 2.2K
PC/N U4-B out
1. VPP/MCLR
2. V+, 5V
3. GND
4. PGD, ICSPDAT
5. PGC, ICSPCLK
6. (NC)
P1 PICKit3
R58 2.2k
R57 2.2k
R55 2.2k
R53 2.2k
LED5
CL
LED6 RED
C
D
POWER IN
+12V IN
C1 330uF
C2 330uF
D1 1N4002
HEATSINK
IN OUT GND
U1 7805
LH1
C3 100uF
C4 100uF
R56 2.2K
C6 0.1uF
U2B
PIC18F4431-DIP40
RB7/PGD RB6/PGC RB5 RB4 RB3 RB2 RB1 RB0 VDD VSS RD7 RD6 RD5 RD4 RC7 RC6 RC5 RC4 RD3 RD2
MCLR RA0 RA1 RA2 RA3 RA4 RA5 RE0 RE1 RE2 AVDD AVSS RA7 RA6 RC0 RC1 RC2 RC3 RD0 RD1
(38) Step0, Handrail
(37) StepN, Top Step
(36) Step1, Bottom Step
(35) Step2
(34) Step3
(33) Step4
(30) Step5
(29) Step6
(28) Step7
(27) Step8
(26) Step9
(25) Step10
(24) Step11
(23) Step12
(22) Step13
(21) Step14
(20) Step15
(19) Step16
(18) Step17
(17) Step18
(16) Step19
(15) Step20
R9 R10 R11 R13 R15 R17 R19 R21 R23 R25 R27 R29 R31 R33 R35 R37 R39 R41 R42 R43 R45 R47 R49 R51 R52
OUT-H OUT-T OUT-1
Q3 N-CH MOS
Q4 N-CH MOS
N-CH MOS
Q5
step0-H
stepN-TOP
step1-BTM
C- WIRE C+ CM
+V
Q-Source Common
P/N-CH MOSFET
OUT-2 OUT OUT-14
step2
Q6
Q18
N-MOSFET
Array
TB2/3 OUT:S,N,H,T,1-14
TB1 OUT:15-20
OUT-15 OUT OUT-20
Q19
MOS N-CH
Q24
R9-R51 (odd, Q-gate) = 0R/2.2k
R10-R52 (even, GND, optional) = 100k
PWM Outputs
5.0V
4.3V
3.77V
3.2V
2.66V
2.1V
1.5V
1.0V
0.5V
1N4148 D2
1N4148 D3
1N4148 D4
1N4148 D5
1N4148 D6
1N4148 D7
D8
D9
S1 Setup
S2 (not used)
S3 (not used)
S4 (not used)
S5 (not used)
R65 470K
C5 0.1uF
MODE SELECT 1-4 (shunt JP)
(OPEN= MODE0)
MODE 4
MODE 3
MODE 2
MODE 1
R54 2.2K
VR1 100K Steps C7 0.1uF
VR2 100K Step Time C8 0.1uF
VR3 100K Delay Off C9 0.1uF
VR4 100K Marker C10 0.1uF
VR5 100K SENSOR_REF1 0.20-0.50V C11 0.1uF
C16 33uF
LH2-5
LH2
S->PC (+)
R60 470K
LDR 30K
LH3
S->PIR (+)
C17 0.1uF
R62 2.2K
LH4
S->TOP (+)
BAT42 D10
R63 470K
C19 0.1uF
LH5
S->BTM (+)
BAT42 D11
R64 470K
C21 0.1uF
C13 1.0uF C12
Y1 10MHz (x4 internal, 40MHz)
C14 18pF C15 18pF
R66 2.2K
R67 2.2K
PIC18 A/D 2.0V=ON
PC/N
PIR
TOP
SN1
LM358N
U4B U4A U3B U3A
R59 470K R61 470K
C18 0.1uF
C20 0.1uF
LOAD
Q19-24 OUT
Q1-18 OUT
Q-OUT
C+ PTC3 +VDC IN
POWER IN
COMMON
CM2 PTC2
CM1 PTC1
CM
2xWIRE JUMPER C-/+ SELECT
SEE BOM NOTES
PEASC-2
ONSTATE DH
Title
PEASC-2 Automatic Steps Controller/ 22-CH Digital Output Controller
Size Letter
Number
Revision Rev. 1
Date: 17/01/2018
Sheet of
File: C:\Onstate\..\PCB-PEASC-2 LED Steps.Sch
Drawn By: