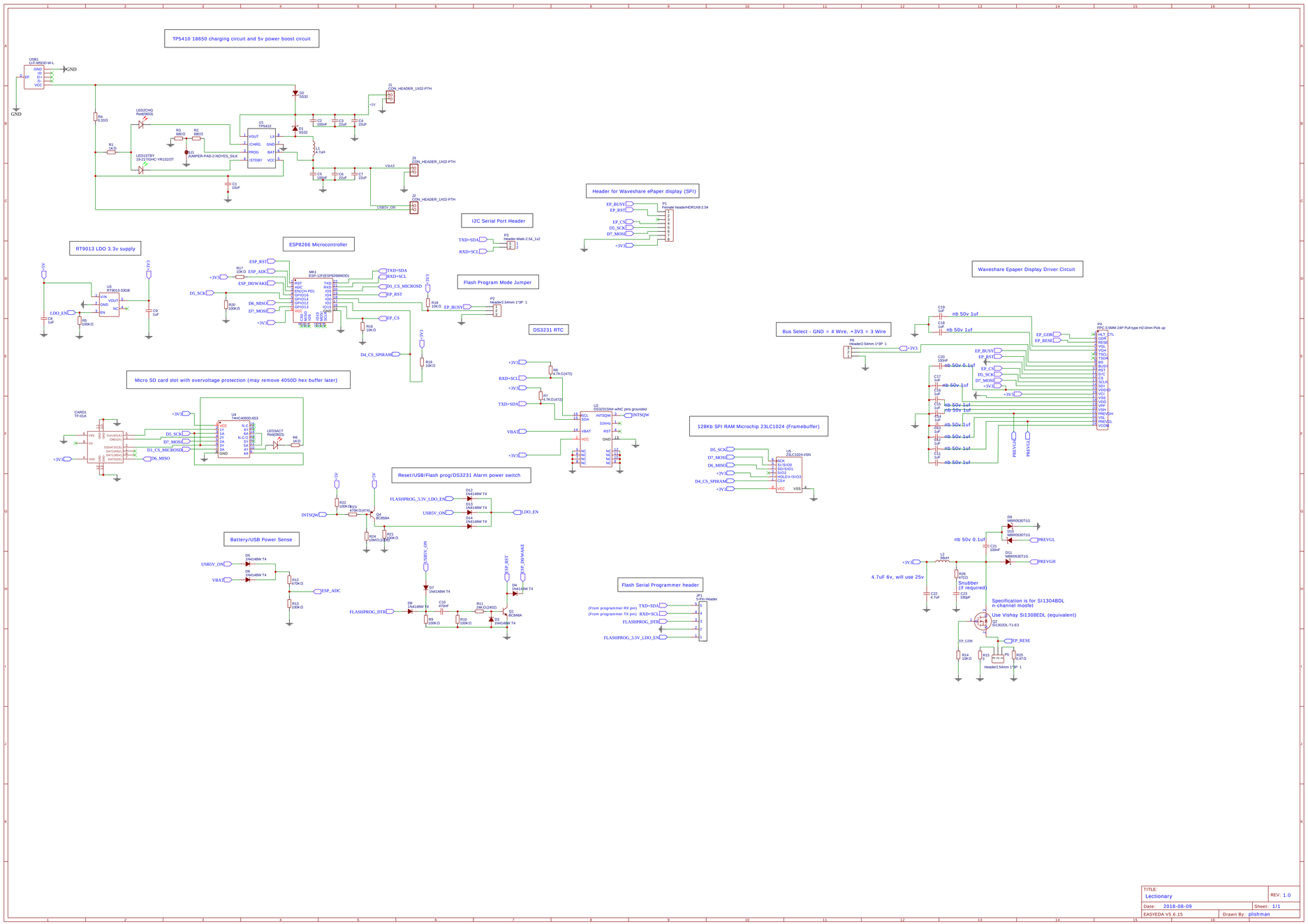
TP5410 18650 charging circuit and 5v power boost circuit
USB1
U5
TP5410
D2
SS32
D3
SS32
J1
CON_HEADER_1X02-PTH
J2
CON_HEADER_1X02-PTH
J3
CON_HEADER_1X02-PTH
LED1CHG
Red(0603)
LED1STBY
19-217/GHC-YR1S2/3T
JUMPER-PAD-2-NOYES_SILK
L1
4.7uH
VBAT
USBSV_ON
GND
+5V
RT9013 LDO 3.3v supply
U3
RT9013-33GB
LDO_EN
+3V3
ESP8266 Microcontroller
MK1
ESP-12F(ESP8266MOD)
ESP_RST
ESP_ADC
ESP_D0/WAKE
D5_SCK
D6_MISO
D7_MOSI
D1_CS_MICROSD
EP_RST
EP_CS
D4_CS_SPIRAM
TXD+SDA
RXD+SCL
I2C Serial Port Header
P3
Header-Male-2.54_1x2
Header for Waveshare ePaper display (SPI)
P1
Female header/HDR1X8-2.54
EP_BUSY
EP_RST
EP_CS
D5_SCK
D7_MOSI
+3V3
Flash Program Mode Jumper
P2
Header2.54mm 1*3P
EP_BUSY
DS3231 RTC
U2
DS3231SN/ wNC pins grounded
INTSQW
32kHz
RST
VBAT
VCC
GND
SCL
SDA
Bus Select - GND = 4 Wire, +3V3 = 3 Wire
P6
Header2.54mm 1*3P
Waveshare Epaper Display Driver Circuit
P4
FPC 0.5MM 24P Pull type H2.0mm Pick up
EP_GDR
EP_RESE
EP_BUSY
EP_RST
EP_CS
D5_SCK
D7_MOSI
PREVGH
PREVGL
Micro SD card slot with overvoltage protection (may remove 4050D hex buffer later)
CARD1
TF-02A
U4
74HC4050D,653
LED3ACT
Red(0603)
D5_SCK
D7_MOSI
D1_CS_MICROSD
D6_MISO
128kb SPI RAM Microchip 23LC1024 (Framebuffer)
U6
23LC1024-I/SN
SCK
SI/SIO0
SO/SIO1
SIO2
HOLD#/SIO3
CS#
VCC
VSS
Reset/USB/Flash prog/DS3231 Alarm power switch
FLASHPROG_3.3V_LDO_EN
USBSV_ON
LDO_EN
INTSQW
Q4
BC858A
Battery/USB Power Sense
D5
1N4148W T4
D6
1N4148W T4
R12
470K Ω
R13
100K Ω
ESP_ADC
FLASHPROG_DTR
D7
1N4148W T4
D8
1N4148W T4
C10
470nF
R11
2M(1/2402)
R9
100K Ω
R10
100K Ω
Q1
BC848A
D4
1N4148W T4
ESP_RST
ESP_D0/WAKE
Flash Serial Programmer header
J4
6 Pin Header
(From programmer RX pin)
(From programmer TX pin)
TXD+SDA
RXD+SCL
FLASHPROG_DTR
FLASHPROG_3.3V_LDO_EN
D9
MBR0530T1G
D10
MBR0530T1G
D11
MBR0530T1G
L2
68uH
R26
470Ω
Snubber
(if required)
C22
4.7uF
C23
330pF
4.7uF 6v, will use 25v
nb 50v 0.1uf
Specification is for SI1304BDL
n-channel mosfet
Use Vishay Si1308EDL (equivalent)
Q2
SI1302DL-T1-E3
R14
10K Ω
R15
R16
R25
0.47Ω
Header2.54mm 1*3P
nb 50v 1uf
nb 50v 0.1uf
TITLE:
Lectionary
REV: 1.0
Date: 2018-08-09
Sheet: 1/1
EASYEDA V5.6.15
Drawn By: plishman

.tran 10m