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Size: USLetter | Date: 2020-10-10
KiCad E.D.A. kicad 5.0.2+dfsg1-1

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OSO-TIBO

notes in blue

DEBUG CONNECTORS

TP1 TP4 TP5
D5_SWDIO_USBID
D8_SWCLK_NEOPIX
RESET
GND
TP3 TP2
+3V3
GND

USB CONNECTOR

J2 10118193-0001LF
VUSB 1
D- 2
D+ 3
ID 4
GND 5
SHIELD
VBUS
USB_N
USB_P
D5_SWDIO_USBID
R16 1M
C27 4.5nF
GND

BATTERY CHARGING

U2 MCP73831/2 LIPO Charger
MCP73831T-2ACI/OT
VDD STAT VBAT PROG VSS
10K = 100mA
5.0K = 200mA
2.0K = 500mA
1.0K = 1000mA
VDD: 3.75-6V
Temp: -40-85°C
C6 10pF
R3 10K
GND
VBAT
VBUS
R6 1K R5 1K
CHG1 AMBER
FUL1 GREEN
JSTPH X1
VBAT
GND

U3B ATSAMD51G18A-MUT 2 of 2

GND_2 5
GND_3 18
GND_4 35
GND 42
VDDANA 6
VDDCORE 41
VDDIO_2 17
VDDIO_3 36
VDDIO 44
VSW 43
AVCC
+3V3
C9 1uF C11 1uF C12 1uF C10 1uF C8 1uF C7 10uF
VSW
GND

FLASH CHIP

U4 GD25Q32C
SCK 6 MOSI 5 MISO 4 SSEL 1 VCC 8 VSS
WP#/IO2 3 HOLD#/IO3 7
D30_QSPI_SCK
D32_QSPI_DATA[0]
D33_QSPI_DATA[1]
D31_QSPI_CS
D34_QSPI_DATA[2]
D35_QSPI_DATA[3]
+3V3
R10 10K
C14 1uF
GND

HEADER-1X9_JSTSH

JP3 1 2 3 4 5 6 7 8 9
D17_9PIN_DC_SERCOM3_MISO
D16_9PIN_CS
D15_SERCOM3_MOSI
D18_SERCOM3_SCK
D25_SERCOM4_SDA
D26_SERCOM4_SCL
A0_AUDIO

ACCESSORY_PORT1

JST PH 3
D2_A3_ACCESSORY
R15 1K
3.6V
C26 10uF
+3V3
GND

I2C_PORT1

SM04B-SRSS-TB(LF)(SN)
I2C_PORT1 1 2 3 4 5
D26_SERCOM4_SCL
D25_SERCOM4_SDA
R14 10K R13 10K
+3V3
GND

RED LED

D13_LED
R11 1K
LED1 RED
GND

POWER AND FILTERING

U1 AP2112-3.3
IN 3 EN 1 OUT 5 P4 GND 2
FB1 Ferrite
+3V3 AVCC
C3 1uF C2 10uF
GND
VBAT
DMG341 Q1
D1 MBR120
R1 10K
R2 100K
C1 10uF
V+
VBUS
EN
GND

BATTERY MONITOR

A4_VBATMON
A5_VBUSMON
R4 10K
100K
VBUS GND VBAT GND
GND

U3A ATSAMD51G18A-MUT 1 of 2

PA00/EINT0/SERCOM1.0 1 D1_SERCOM1_TX
PA01/EINT1/SERCOM1.1 2 D0_SERCOM1_RX
PA02/EINT2/AIN0/VOUT0 3 AVCC (AREF)
PA03/I3/VREFA/AIN1/PTCX0+Y0 9 A2_HINGE_SENSOR SMD5
PA04/I4/VREFB/AIN4/SERCOM0.0/PTCX3+Y3 10 D2_A3_ACCESSORY SENSE1
PA05/I5/AIN5/VOUT1/SERCOM0.1 11 A4_VBATMON
PA06/I6/VREFC/AIN6/SERCOM0.2/PTCX4+Y4 12 A5_VBUSMON
PA07/I7/AIN7/SERCOM0.3/PTCX5+Y5 13 D32_QSPI_DATA[0]
PA08/I2C/AIN8/SERCOM0.0+2.1/I2SMCK/PTCX6+Y6 14 D33_QSPI_DATA[1]
PA09/I2C/I9/AIN9/SERCOM0.1+2.0/I2SCK/PTCX7+Y7 15 D34_QSPI_DATA[2]
PA10/I10/AIN10/SERCOM0+2.2/I2SCK/PTCX8+Y8 16 D35_QSPI_DATA[3]
PA11/I11/AIN11/SERCOM0+2.3/I2SDO/PTCX9+Y9 21 D12_EINK_BUSY
PA12/I12/I2C/SERCOM2.0+4.1 22 D7_SDCD
PA13/I13/I2C/SERCOM2.1+4.0 23 D4_TOUCHINT
PA14/I14/SERCOM2+4.2 24 D6_SDCS
PA15/I15/SERCOM2+4.3 25 D18_SERCOM3_SCK
PA16/I2C/I10/SERCOM1.0+3.1/PTCX10+Y10 26 D17_9PIN_DC_SERCOM3_MISO
PA17/I2C/I11/SERCOM1+3.0/PTCX11+Y11 27 D16_9PIN_CS
PA18/I2/SERCOM1+3.2/PTCX12+Y12 28 D15_SERCOM3_MOSI
PA19/I3/SERCOM1+3.3/PTCX13+Y13 29 D14_TOUCH_RST
PA20/I4/SERCOM3+5.2/I2SFS0/PTCX14+Y14 30 D11_EINK_RST
PA21/I5/SERCOM3+5.3/I2SDO/PTCX15+Y15 31 D10_EINK_DC
PA22/I2C/I6/SERCOM3.1+5.0/I2SDI/PTCX16+Y16 33 D9_EINK_CS
PA23/I2C/I7/SERCOM3.1+5.0/SOF/I2SFS1/PTCX17+Y17 34 USB_N
PA24/I8/SERCOM3+5.2/D- 35 USB_P
PA25/I9/SERCOM3+5.3/D+ 39 D13_LED
PA27/I11/PTCX18+Y18 45 D5_SWDIO_USBID
PA30/I14/SERCOM1.2/SWCLK/PTCX19+Y19 46 D8_SWCLK_NEOPIX
PA31/I15/SERCOM1.3/SWDIO
+3V3
R7 10K

PB02/I2/AIN14/SERCOM5.0/PTCX20+Y20 47 D3_LOCK_BUTTON
PB03/I3/AIN15/SERCOM5.1 48 D29_SERCOM5_SCK
PB08/I8/AIN2/SERCOM4.0/PTCX1+Y1 7 D25_SERCOM4_SDA
PB09/I9/AIN3/SERCOM4.1/PTCX2+Y2 8 D26_SERCOM4_SCL
PB10/I10/SERCOM4.2/I2SDI 19 D30_QSPI_SCK
PB11/I11/SERCOM4.3/I2SFS1 20 D31_QSPI_CS
PB22/I6/SERCOM1+5.2 37 D27_SERCOM5_MISO
PB23/I7/SERCOM1+5.3 38 D28_SERCOM5_MOSI
EPAD 49 GND
RESETN 40

BTN_LOCK1
GND
+3V3
R8 10K
R9 RESET 100
C13 0.1uF
BTN_RESET1
GND

E-PAPER DISPLAY

SD & MMC

D7_SDCD	CD1	CARD_DETECT
	CD2	CARD_DETECT1
D27_SERCOM5_MISO	7	DATA_OUT
D28_SERCOM5_MOSI	3	DATA_IN
D29_SERCOM5_SCK	5	SCLK
	2	CS
D6_SDCS	8	DAT1
	1	DAT2
	4	VDD
	6	VSS
	MT2	GND1
	MT1	GND

+3V3
C25 10uF
GND

+3V3
C4 10uF
C5 1uF
GND

ENABLE SWITCH

JS102011SAQN
EN
ENABLE_SWITCH1
3
1
GND

WS2812B
VDD
DI
DO
GND
+3V3
GND
D8_SWCLK_NEOPIX

SERIAL PORT

JP2 PINHD-1X1
1
+3V3

JP1 PINHD-1X3
1 D1_SERCOM1_TX
2 VDD
3 D0_SERCOM1_RX
GND

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EINK_DISPLAY_TOUCH

U$31A
HLT_CTL   1
GDR   2   GDR
RESE   3   RESE
VGL   4   VGL
VGH   5   VGH
TSCL   6
TSCA   7
BS   8
BUSY   9   D12_EINK_BUSY
RST   10   D11_EINK_RST
D/C   11   D10_EINK_DC
CS   12   D9_EINK_CS
SCLK   13   D18_SERCOM3_SCK
SDI   14   D15_SERCOM3_MOSI
VDDIO   15
VCI   16
VSS   17
VDD   18   VDD
VPP   19
VSH   20   VSH
PREVGH   21   PREVGH
VSL   22   VSL
PREVGL   23   PREVGL
VCOM   24   VCOM

L2 10uH
+3V3
Q2
GDR
RESE
R12 0.47ohm
GND
D4 MBR0530
PREVGH
C20 1uF/25V
GND
D2 MBR0530
PREVGL
C24 4.7uF/25V
GND
D3 MBR0530
PREVGL
C22 1uF/25V
GND

EINK_DISPLAY_TOUCH

U$31B
GND 25 GND
INT 26 D4_TOUCHINT
RST 27 D14_TOUCH_RST
VDD 28 +3V3
SCL 29 D26_SERCOM4_SCL
SDA 30 D25_SERCOM4_SDA

TOUCHY

GND

1uF C15
1uF C16
+3V3
1uF C17
1uF/25V C18
1uF/25V C19
1uF/25V C21
1uF/25V C23
GND

OSHW Logo