J1
microbit_edge_connector

P22_GND 1
GND 3
GND 5
GND 7
GND 9
P21_GND 11
P20_SDA 13
P19_SCL 15
P18_3v3 17
3v3 19
3v3 21
3v3 23
3v3 25
P17_3v3 27
P16 29 wp
P15_MOSI 31 mosi
P14_MISO 33 miso
P13_SCK 35 sclk
P2 37
P2 39
P2 41
P2 43
P12 45
P11_Button_B 47
P10 49 CD
P9 51 CS1
P8 53 hold
P1 55
P1 57
P1 59
P1 61
P7 63
P6 65
P5_Button_A 67
P4 69
P0 71
P0 73
P0 75
P0 77
P3 79

PWR_FLAG
GND

GND

C1 100nF
C2 1uF
C4 10uF
3.3V

U1
W25Q128JV

8 VCC
1 CS
6 CLK
DI(IO0) 5 mosi
DO(IO1) 2 miso
IO2 3 wp
IO3 7 hold
4 GND

CS0
GND

J3
Micro_SD_Card_Det_Hirose_DM3AT

CS1 1 DAT2
2 DAT3/CD
DI mosi 3 CMD
3.3V 4 VDD
sclk 5 CLK
GND 6 VSS
DO miso 7 DAT0
8 DAT1
CD 10 DET_A
9 DET_B
SHIELD 11
GND
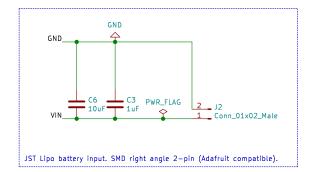
Driving SHDN low places the MCP1253 in a low-power
shutdown mode. Pulling it high enables the chip.

U2
MCP1253-ADJI_MS

CFLY
C5 1uF

5 C−
6 C+
7 SHDN
8 FB
4 GND
3 VIN
VOUT 2 3.3V
PGOOD 1

VIN

R1 17K4
R2 10K
R3 100K
3.3V
GND
3.3V

R1 = R2 * [(VOUT/VFB)−1]
VOUT = VFB(1+R1/R2)
VFB = 1.21V
Let R2 = 10K and VOUT = 3.3V
R1 = 10K*[(3.3/1.21) −1] = 17.3K
check 1.21(1+17.3K/10K) = 3.303

Adj 3.3V Regulated DC/DC converter

GND

GND

C6 10uF
C3 1uF
PWR_FLAG

VIN

2 J2
1 Conn_01x02_Male

JST Lipo battery input. SMD right angle 2-pin (Adafruit compatible).

CS0 to Pin16 Dedicated GPIO (Conventially used for SPI 'Chip Select')
CD to Pin10 GPIO shared with LED Col 3 of the LED screen; can be used for ADC and digital I/O when the LED screen is turned off.
WP to Pin9 GPIO shared with LED Col 7 of the LED screen; can be used for digital I/O when the LED screen is turned off.
CS1 to Pin8 Dedicated GPIO, for sending and sensing digital signals.
hold to Pin7 GPIO shared with LED Col 8 of the LED screen; can be used for digital I/O when the LED screen is turned off.