Voltage Regulator powered by
Battery Management
System(BMS) module.
+3.3V output voltage.
Part # AP2120-3.3

+3.3V (250mA Max)

U1
VIN   VOUT
GND
TPB
TestPoint

SW4A
SW_DPST_x2

+VBUS1

VBUS_Battery_Power (+3.7V)

C6
1uF

C7
1uF

GND
GND
GND

−GND1

Power module connecting with VBUS (+) and −GND (−)

5V 1A 18650 Lithium Battery Charging Board TP4056(BMS)

Programmer switch: in 5V state the chip allowes us to program it
. if 3.3V switch then the chip is in active mode.

Program Mode/Normal Mode Switch

+5V (Programmer Source)
+3.3V

SW3A
SW_SPDT

VCC

OLED Display 128x32 SS01306

+3.3V (16mA MAX)

J3
GND
VCC
SDA−
SDA+

GND

Color Sensor TCS−34725 Connections

J4
+3.3V (330μA Max)
1 V_IN
2 GND
3 SDA−
4 SDA+
5 LED_EN

Conn_01x05_Pin

SW1
SW_SPST

R1
10k

+3.3V

J2
Rx
Tx
GND

U2
ATmega328P−P

VCC
AREF
AVCC
VCC

R5
1k

R4
1k

GND

TP1
RESET/PC6

(RXD)PD0

(TXD)PD1

TestPoint
TP2

TestPoint
TP3

SDA−
SDA+

28
27

GND

UART Rx/Tx

SW2
SW_MEC_5E

+3.3V

R6
10k

TP6
TestPoint

GND

Switch Push Button
Changes the state of device

(TO)PD4

(ADC1)PC1

TP7
TestPoint

TestPoint

TP5
TestPoint

+3.3V

R2
1k

Blue LED (100mA Max)   LED1

C1 43p

Y1
8 MHz

C2 43p

XTAL+
XTAL−

(SCK)PB5
(MISO)PB4
(MOSI)PB3

19
18
17

TestPoint
TP4

R7
0 Ohm

Q1
Q_NMOS_GDS

GND

PD5
PD6
PC3
PC2
(ICP)PC0

(INT1)PD3
(INT0)PD2
(SS)PB2
(AIN1)PD7
(ICP)PB0
(OC1)PB1

R3
10k

GND

Clock LED Indicator

+3.3V (2.3mA Max)

C3
100n

GND

GND

J1
ICSP CONN
MISO   VCC
SCK   MOSI
RST   GND

+5V (VCC)

+3.3V
C5
100n

C4
100n

GND

ICSP Connector to program the ATmega328P−P chip