+12V

+5V_ISO

+5V_ISO

0.1uF-50V-5%-0805
C8

GND_ISO

R12
499R-1%-0805

R11
499R-1%-0805

D7
B340AE-13

U3
TLP2361(TPL,E

J3
OUT

1

6

5

DIO_RIO 3
+5V_RIO 2
GND_RIO 1

R10
100R-1%-0805

3

4

GND_ISO

GND_ISO

1.3V

D1
B340AE-13

R13
499R-1%-0805

D6
SIG 2.1V

R9
499R-1%-0805

R8
499R-1%-0805

GND

File: power-supply.kicad_sch

2/2

J1
Power

2
1

GND

DCIN

Power Supply

DCOUT

+12V

J2
SENSOR

SIG 4
3
12V 2
1

GND

G1

Space Cookeis Logo

H2
1.5mm Tooling Hole

H3
1.5mm Tooling Hole

1868 SPACE COOKIES

Sheet: /
File: BeamBreak-v1.kicad_sch
Title: Beam Break Adapter
Size: B | Date: 2026-01-04 | Rev: 1
KiCad E.D.A. 9.0.7 | Id: 1/2

D4
B340AE-13

D5
B340AE-13

DCIND

DCDC_IN

L1
33uH-159m-20%

GND

U2
LM3478MA

8 VIN   DR 6
7 FA/SD FB 3
2 COMP ISEN 1
AGND PGND
4   5

D3
B340AE-13

Q1
SI2318CDS-T1-GE3
G
S   D

R6
100R-1%-0805

C4
10pF-50V-5%-0805

R3
8.66k-1%-0805

R5
50mOhm-1%-0805

R2
1k-1%-0805

C6
100uF-20%-35V

C7
100uF-20%-35V

U1
ITS41k0S-ME-N
Vs   OUT
2   3
IN
1
GND

R7
2k-1%-0805

D2
PWR

DCOUT

C2
100uF-20%-35V

C3
0.1uF-50V-5%-0805

R1
59.0k-1%-0805

R4
7.32k-1%-0805

C1
1nF-50V-5%-0805

C5
22nF-50V-5%-0805

GND GND GND GND GND GND GND GND GND GND GND

VinMin: 5V
Vout: 12.2V
Iout: 500mA
f_sw: 289kHz

Webench LM3478 Design

1868 SPACE COOKIES