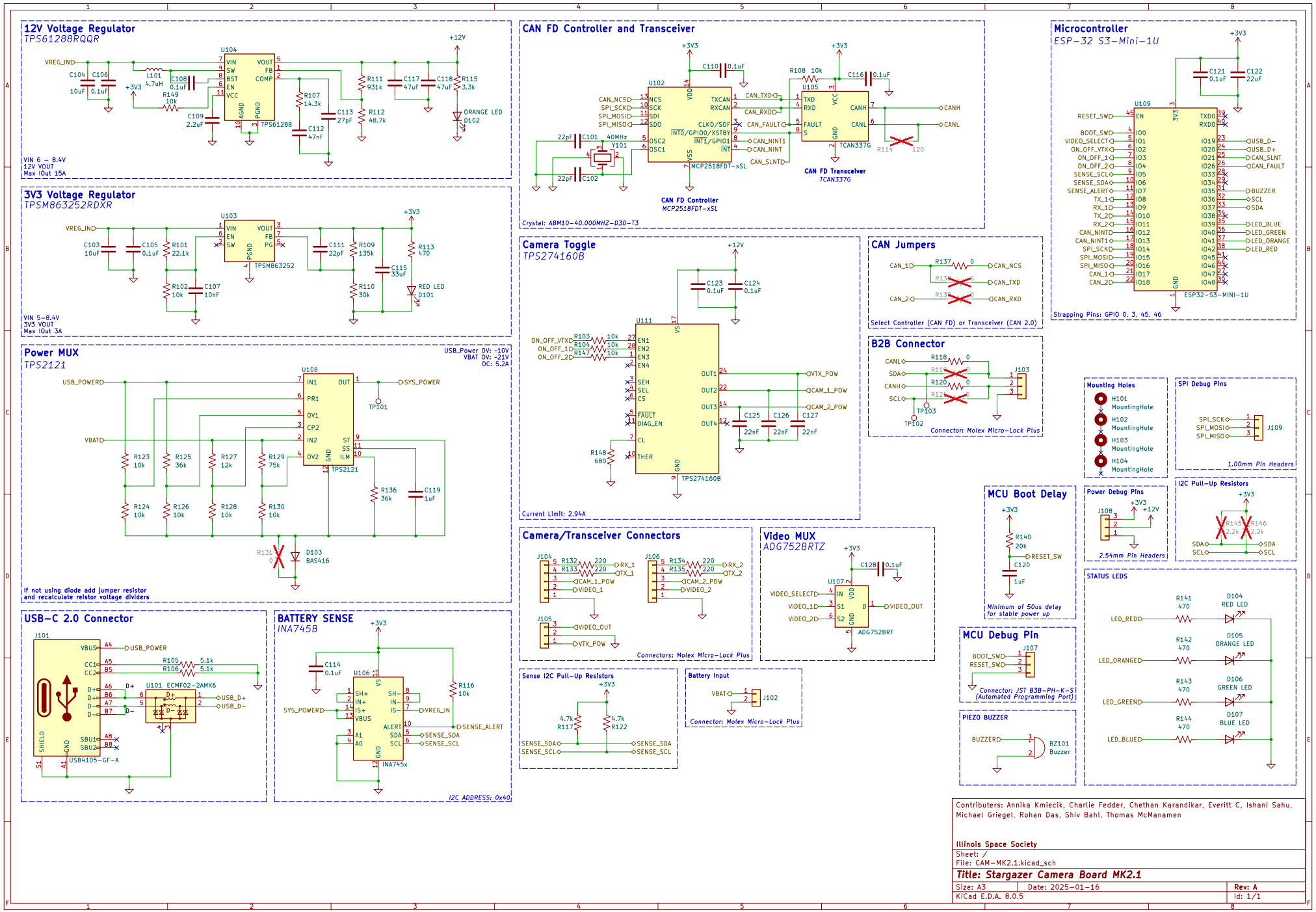
12V Voltage Regulator
TPS61288RQQR
VIN 6 – 8.4V
12V VOUT
Max IOut 15A
3V3 Voltage Regulator
TPSM863252RDXR
VIN 5–8.4V
3V3 VOUT
Max IOut 3A
Power MUX
TPS2121
USB_Power OV: -10V
VBAT OV: -21V
OC: 5.2A
If not using diode add jumper resistor
and recalculate resistor voltage dividers
USB-C 2.0 Connector
USB4105-GF-A
BATTERY SENSE
INA745B
I2C ADDRESS: 0x40
CAN FD Controller and Transceiver
CAN FD Controller
MCP2518FDT-xSL
CAN FD Transceiver
TCAN337G
Crystal: ABM10-40.000MHZ-D30-T3
Camera Toggle
TPS274160B
Current Limit: 2.94A
Camera/Transceiver Connectors
Connectors: Molex Micro-Lock Plus
Sense I2C Pull-Up Resistors
Battery Input
Connector: Molex Micro-Lock Plus
Video MUX
ADG752BRTZ
CAN Jumpers
Select Controller (CAN FD) or Transceiver (CAN 2.0)
B2B Connector
Connector: Molex Micro-Lock Plus
Microcontroller
ESP-32 S3-Mini-1U
Strapping Pins: GPIO 0, 3, 45, 46
Mounting Holes
SPI Debug Pins
1.00mm Pin Headers
MCU Boot Delay
Minimum of 50us delay
for stable power up
Power Debug Pins
2.54mm Pin Headers
I2C Pull-Up Resistors
MCU Debug Pin
Connector: JST B3B-PH-K-S
(Automated Programming Port)
STATUS LEDS
PIEZO BUZZER
Contributers: Annika Kmiecik, Charlie Fedder, Chethan Karandikar, Everitt C, Ishani Sahu,
Michael Griegel, Rohan Das, Shiv Bahl, Thomas McManamen
Illinois Space Society
Sheet: /
File: CAM-MK2.1.kicad_sch
Title: Stargazer Camera Board MK2.1
Size: A3
Date: 2025-01-16
Rev: A
KiCad E.D.A. 8.0.5
Id: 1/1