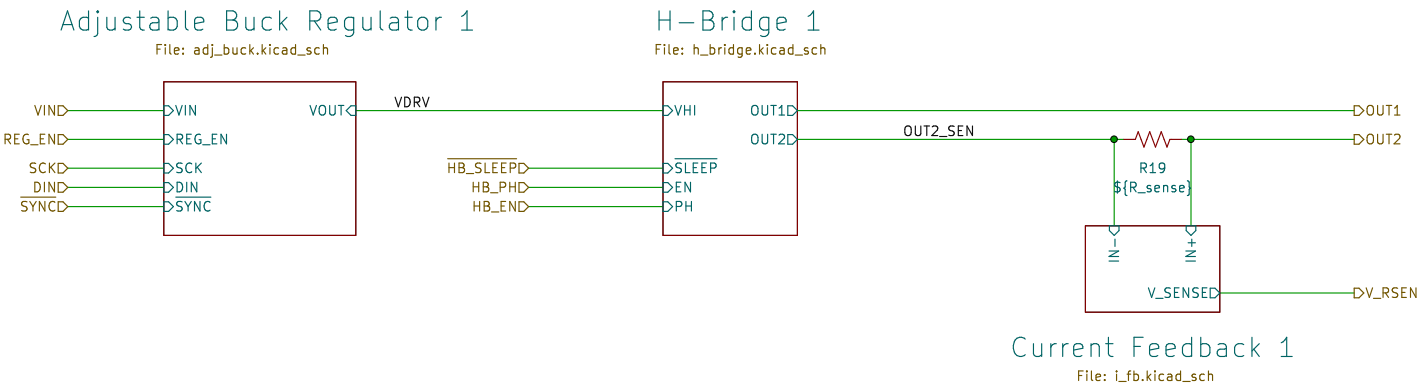


MTQ DRIVER

PARAMATERS

X/Y MTQ 80–145R, 0.2W
50mA MAX
Z MTQ 30–55R, 0.57W
137mA MAX

Control of VDRV is 0–5V
so control can exceed max power of MTQs.



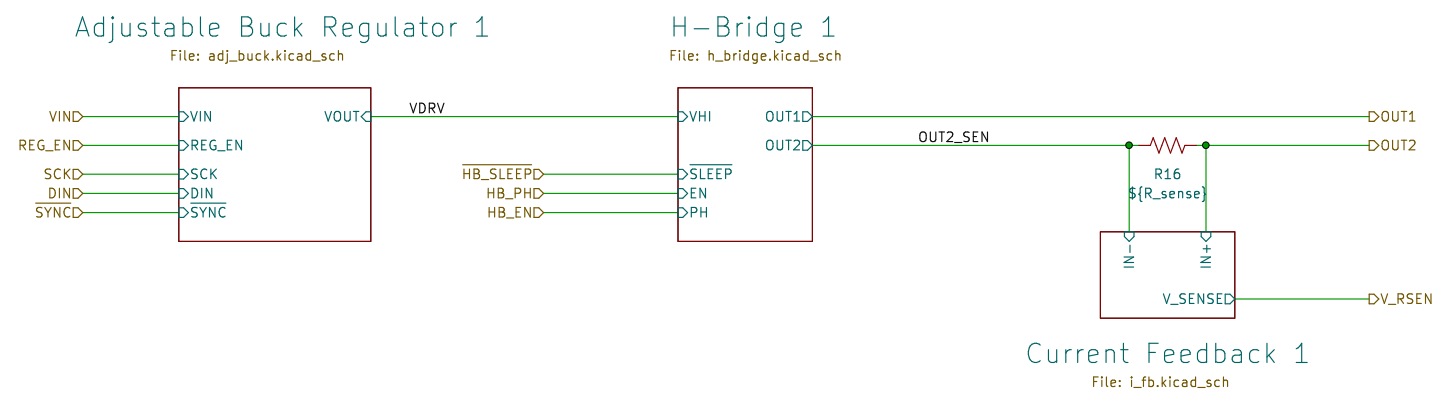
MTQ DRIVER

PARAMETERS

X/Y MTQ 80-145R, 0.2W
50mA MAX

Z MTQ 30-55R, 0.57W
137mA MAX

Control of VDRV is 0–5V
so control can exceed max power of MTQs.



H-BRIDGE DRIVER

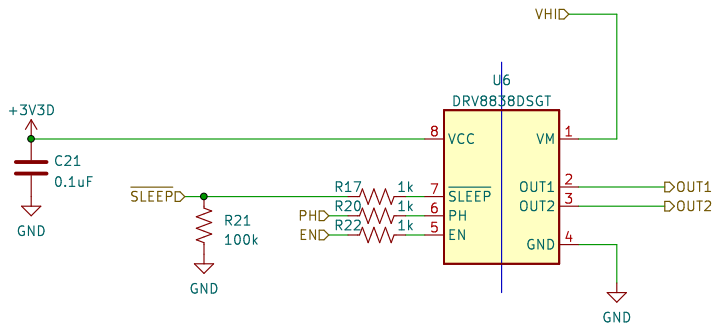
for bi-directional control

PARAMATERS

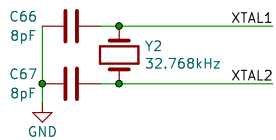
VHI = 0-5V
IOUT = 150mA MAX

NOTES:

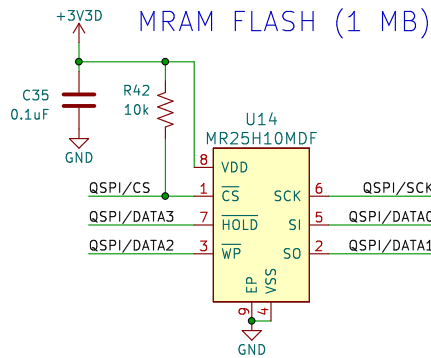
FET body diodes
clamp drive voltage
no need for output TVS



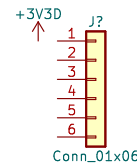
Crystal



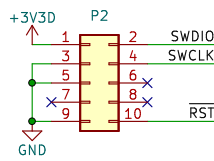
MRAM FLASH (1 MB)



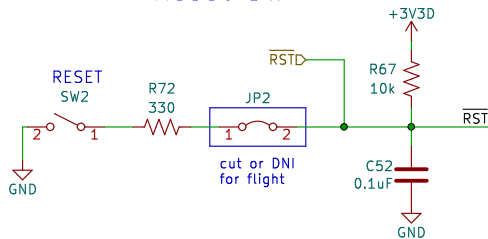
Debug Serial Header



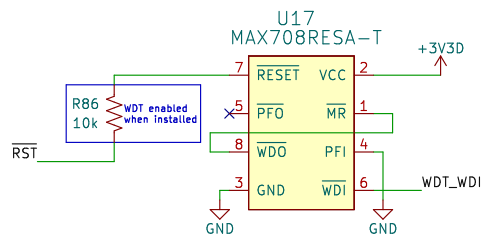
JTAG Port



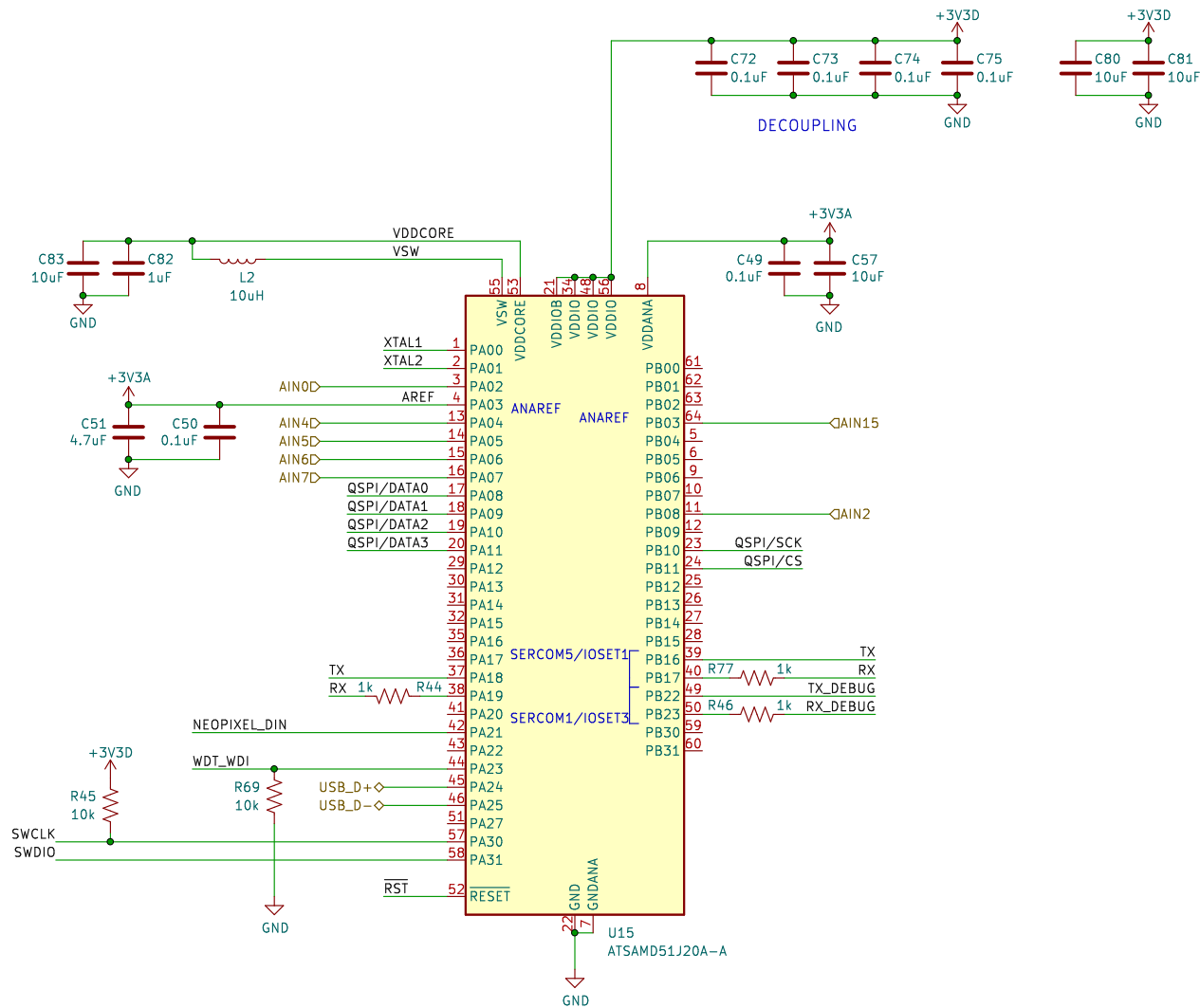
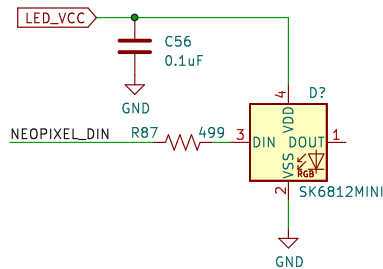
Reset SW



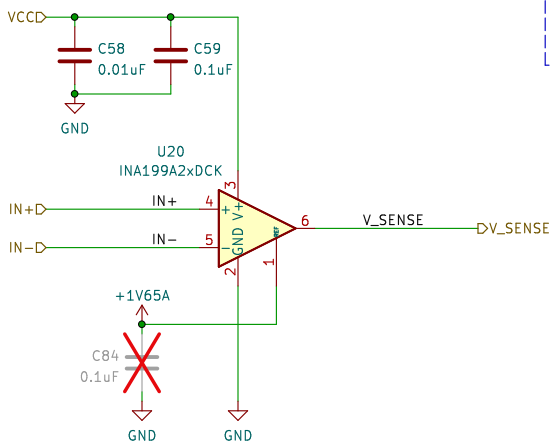
WDT



STATUS LED



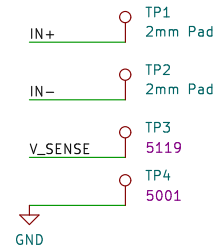
CURRENT SENSE AMPLIFIER



NOTES

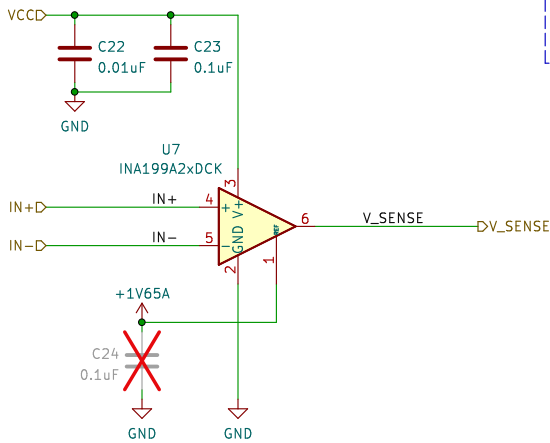
100v/v gain
Pick sense resistor for 15mV full deflection (max current)
1.65V offset. Vout ranges 150mV–3.15V

TEST POINTS



INA199 rad data:
<https://doi.org/10.1109/REDW.2019.8906629>

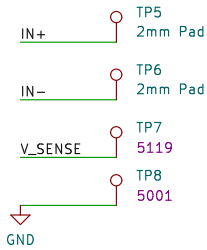
CURRENT SENSE AMPLIFIER



NOTES

100v/v gain
Pick sense resistor for 15mV full deflection (max current)
1.65V offset. Vout ranges 150mV–3.15V

TEST POINTS

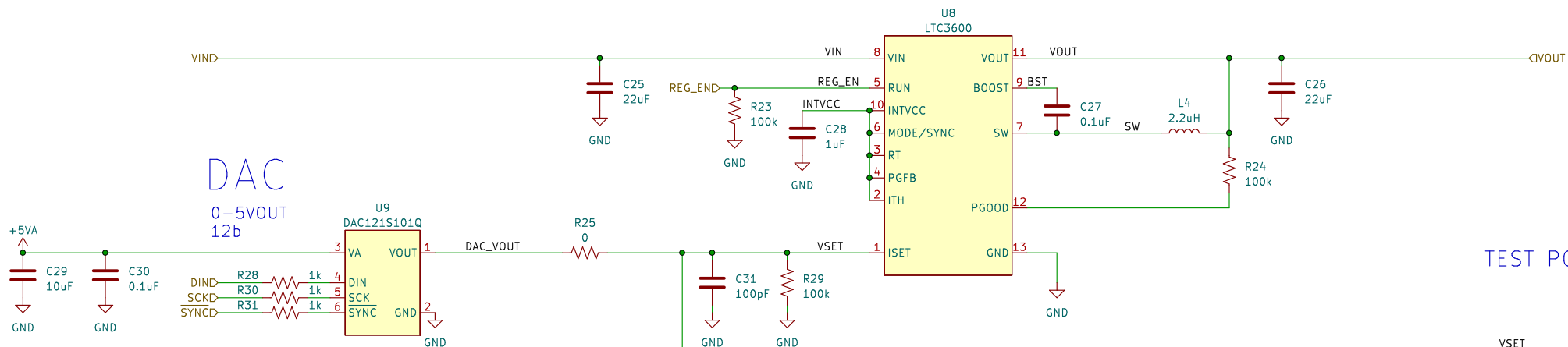


INA199 rad data:
<https://doi.org/10.1109/REDW.2019.8906629>

PARAMETERS

VIN 6-9V
VOUT 0-5V
IOUT = 200mA
f_{sw} = 1MHz

ADJUSTABLE BUCK

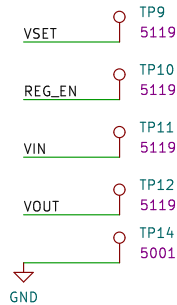


DAC
0-5VOUT
12b

OUTPUT VOLTAGE SETTING:

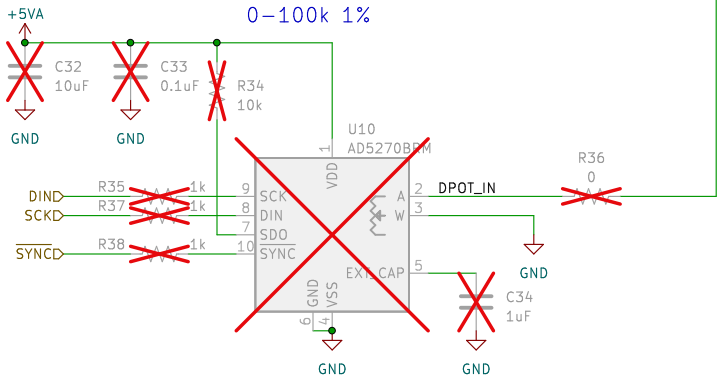
ISET pin voltage may be controlled by an external resistor, or an applied power supply that has the capability to sink 50uA.
DAC121 (12b) or AD527(9b) control, DAC121 has rad data, can't simulate if it will work (no model) but probably will, AD527 doesn't have data but has been simulated.
No schedule for a re-spin, so control methods are included.

TEST POINTS



DIGITAL POT

0-100k 1%

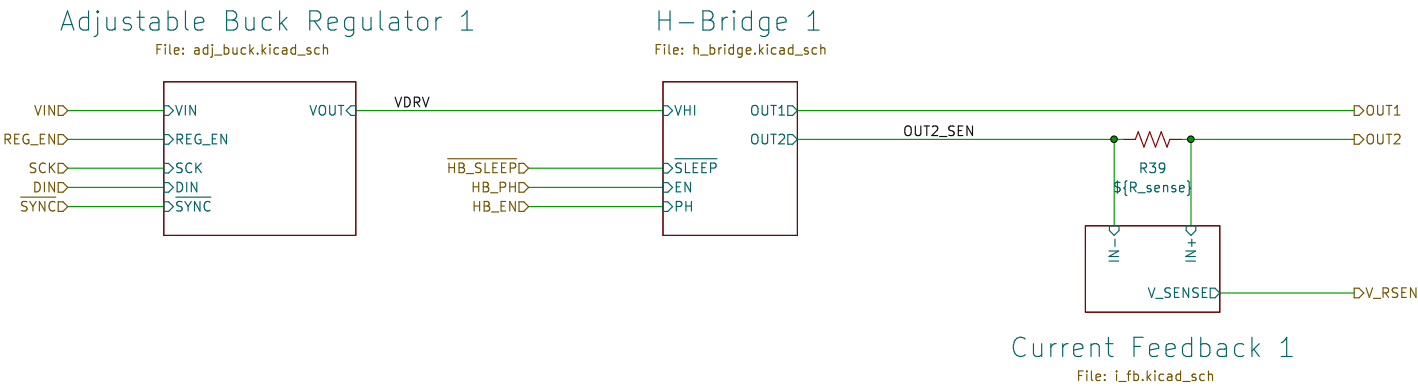


MTQ DRIVER

PARAMATERS

X/Y MTQ 80–145R, 0.2W
50mA MAX
Z MTQ 30–55R, 0.57W
137mA MAX

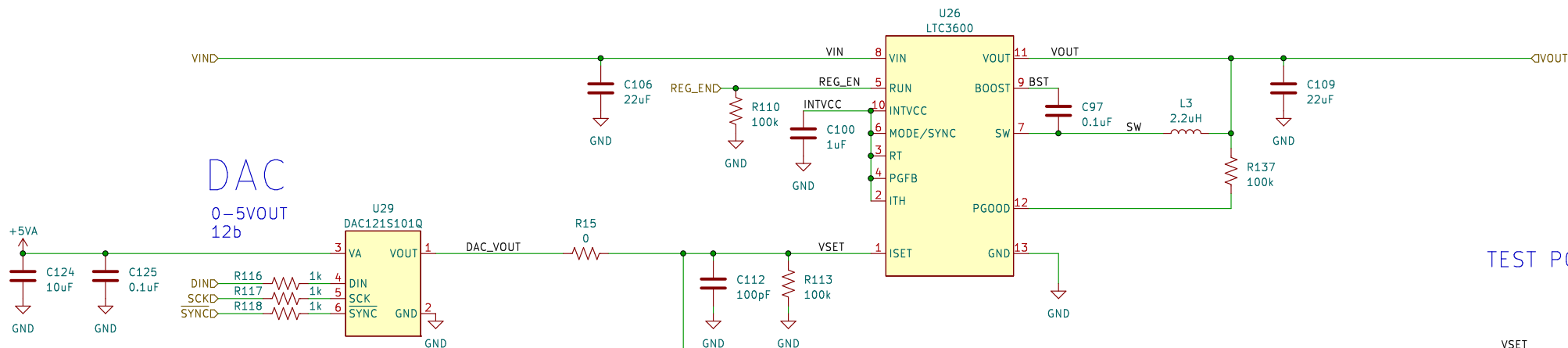
Control of VDRV is 0–5V
so control can exceed max power of MTQs.



PARAMETERS

VIN 6-9V
VOUT 0-5V
IOUT = 200mA
f_{sw} = 1MHz

ADJUSTABLE BUCK

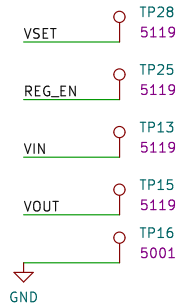


DAC
0-5VOUT
12b

OUTPUT VOLTAGE SETTING:

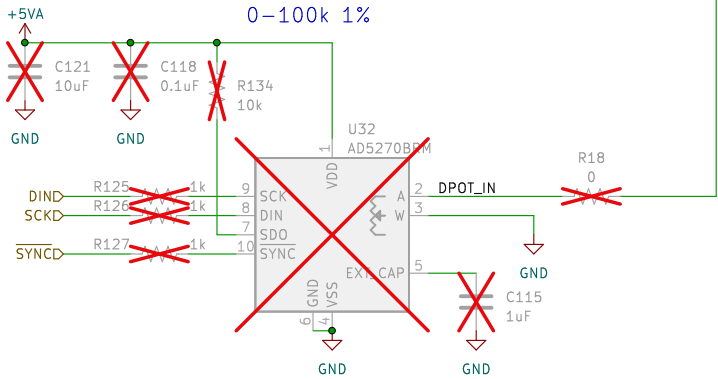
ISET pin voltage may be controlled by an external resistor, or an applied power supply that has the capability to sink 50uA.
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No schedule for a re-spin, so control methods are included.

TEST POINTS

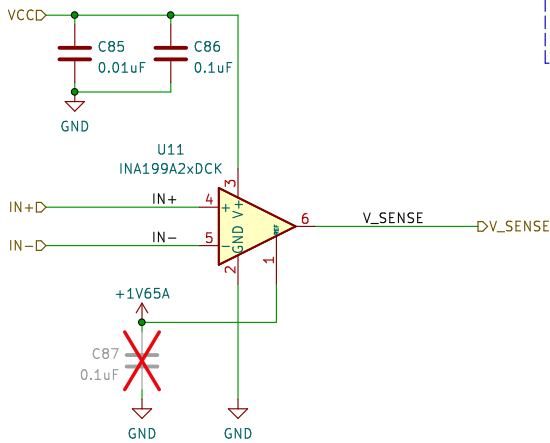


DIGITAL POT

0-100k 1%



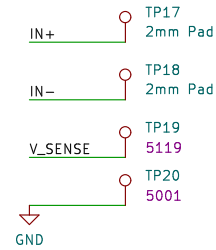
CURRENT SENSE AMPLIFIER



NOTES

100v/v gain
Pick sense resistor for 15mV full deflection (max current)
1.65V offset. Vout ranges 150mV–3.15V

TEST POINTS



INA199 rad data:
<https://doi.org/10.1109/REDW.2019.8906629>

H-BRIDGE DRIVER

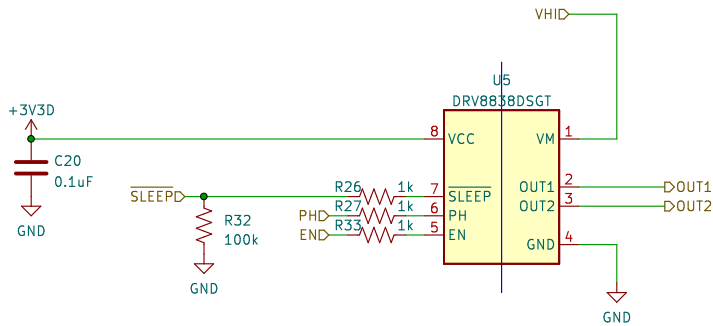
for bi-directional control

PARAMATERS

VHI = 0-5V
IOUT = 150mA MAX

NOTES:

FET body diodes
clamp drive voltage
no need for output TVS



H-BRIDGE DRIVER

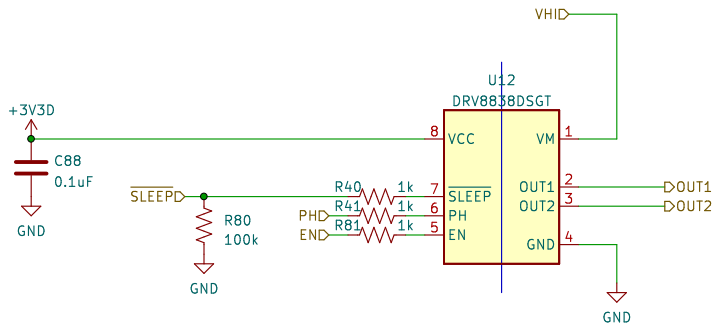
for bi-directional control

PARAMETERS

VHI = 0-5V
IOUT = 150mA MAX

NOTES:

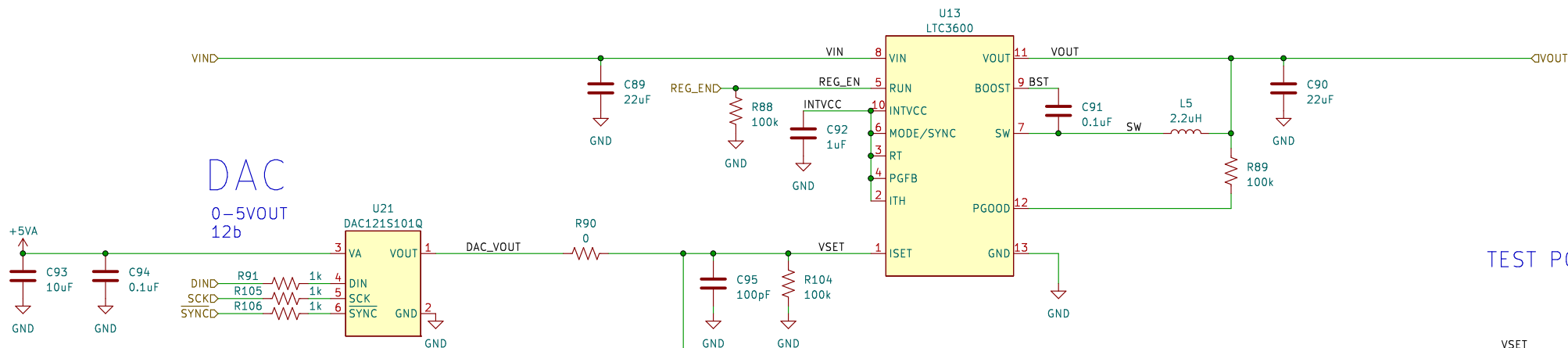
FET body diodes
clamp drive voltage
no need for output TVS



PARAMETERS

VIN 6-9V
VOUT 0-5V
IOUT = 200mA
f_{sw} = 1MHz

ADJUSTABLE BUCK



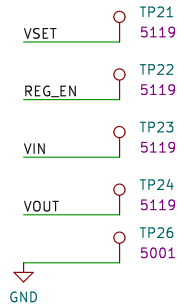
DAC
0-5VOUT
12b

OUTPUT VOLTAGE SETTING:

ISET pin voltage may be controlled by an external resistor, or an applied power supply that has the capability to sink 50uA.

DAC121 (12b) or AD527(9b) control, DAC121 has rad data, can't simulate if it will work (no model) but probably will. AD527 doesn't have data but has been simulated. No schedule for a re-spin, so control methods are included.

TEST POINTS



DIGITAL POT

0-100k 1%

