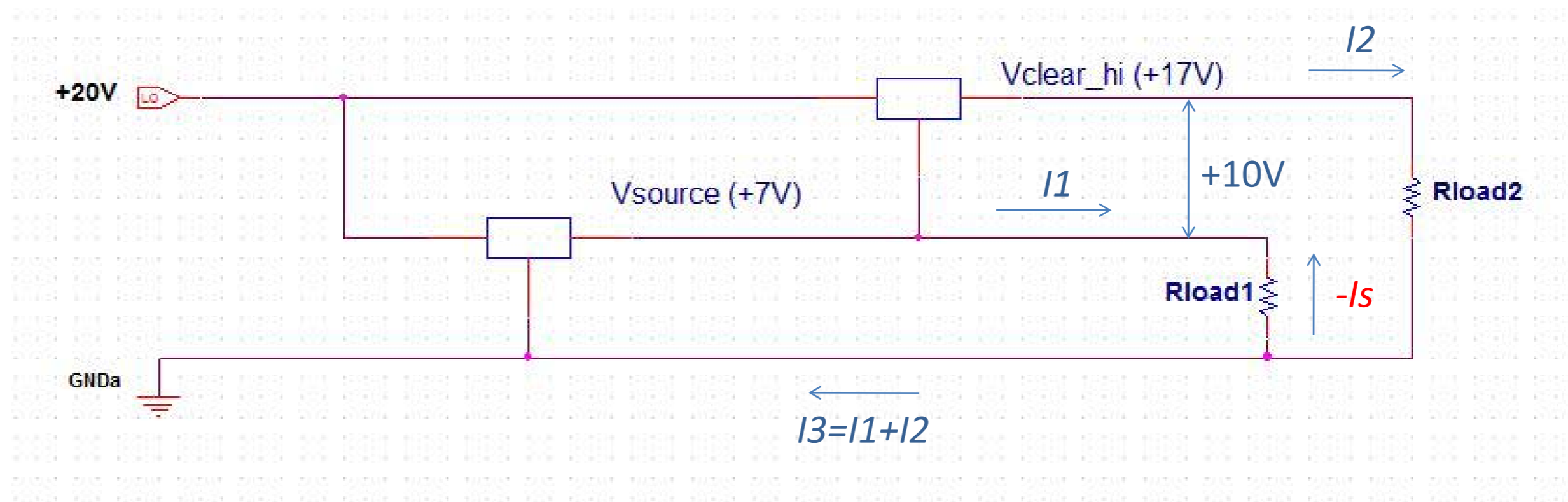


- 1) Not possible to get VCCG 7V (because of the drop voltage), also no possibility to reduce.
- 2) The maximum negative voltage for LT1185 -25V, with Vsource as reference -18V.
- 3) Vsource limits the possibility to reduce Vclear_low (8V).



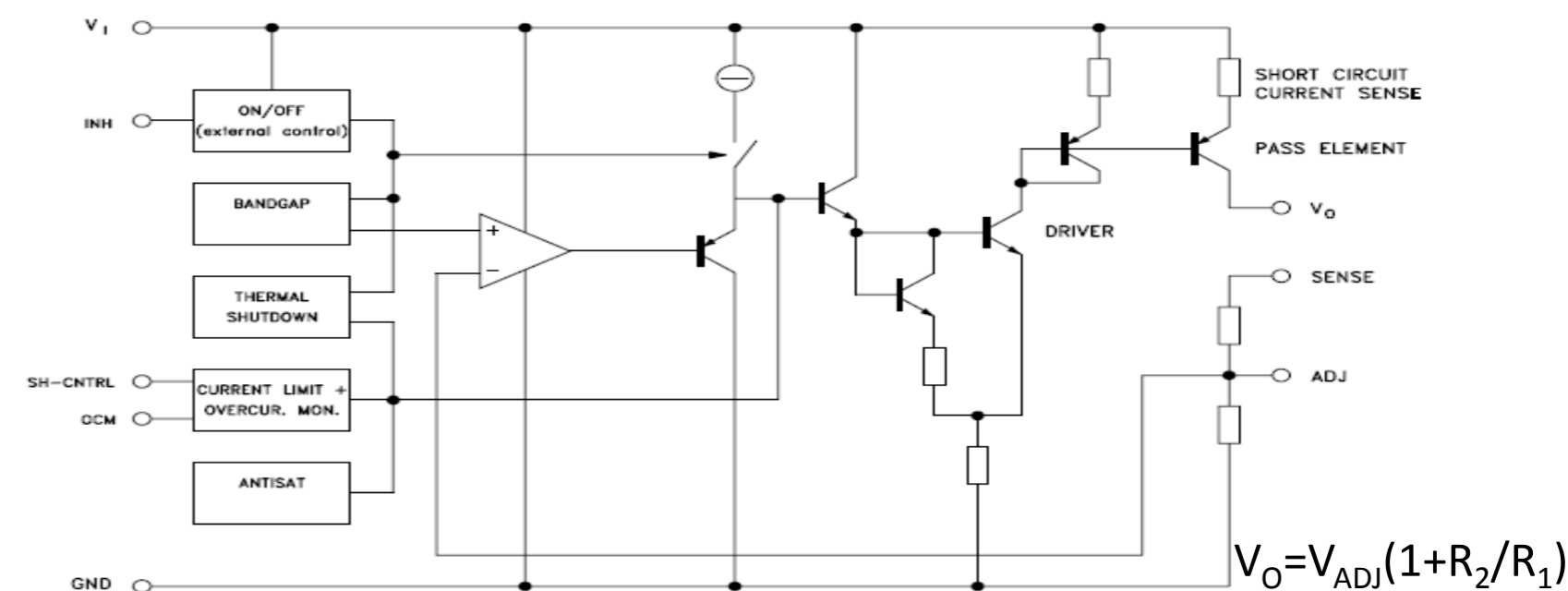
4 primary input DC voltages will be used:
 +5V with analog ground,
 +5V with digital ground,
 -20V and -40V (for 100µm silicon width).
 Also we need +20V supply for potentiometers.

LHC4913

3 A low dropout voltage
 Overtemperature and overcurrent protection
 Adjustable overcurrent limitation

Symbol	Value	Unit
V_I	12	V
V_O	1.23 to 9	V
I_o	3	A

Tested, well working,
 low maximum output
 voltage

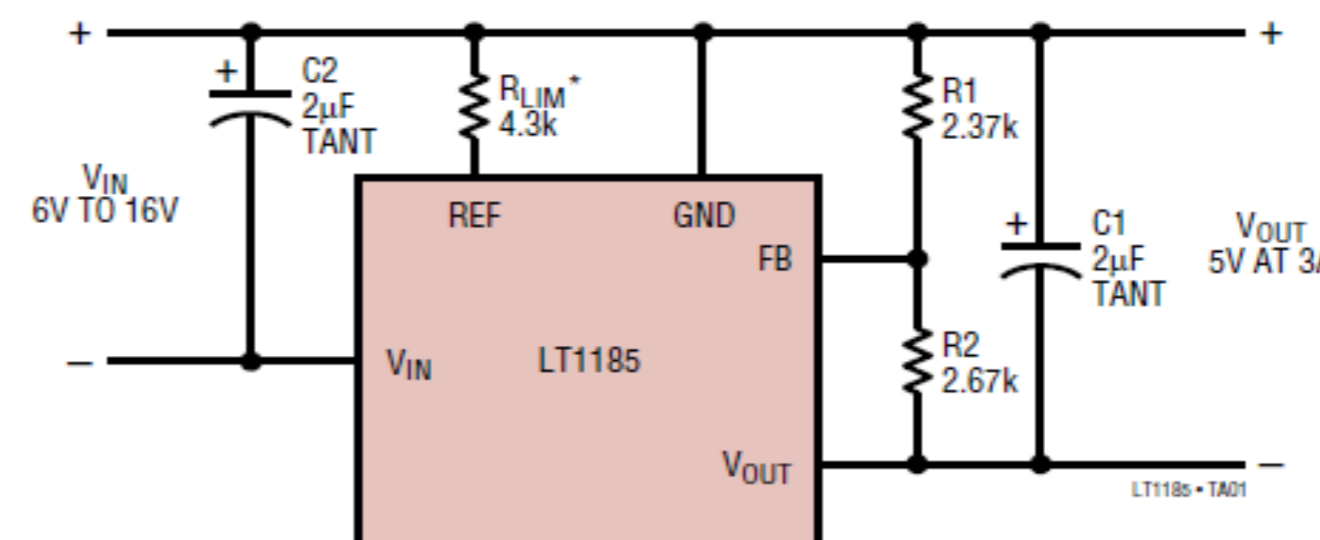


LT1185

Dropout Voltage: 0.75V at 3A
 Accurate Programmable Current Limit

Symbol	Value	Unit
V_I	35	V
V_O	2.5 to 25	V
I_o	3	A

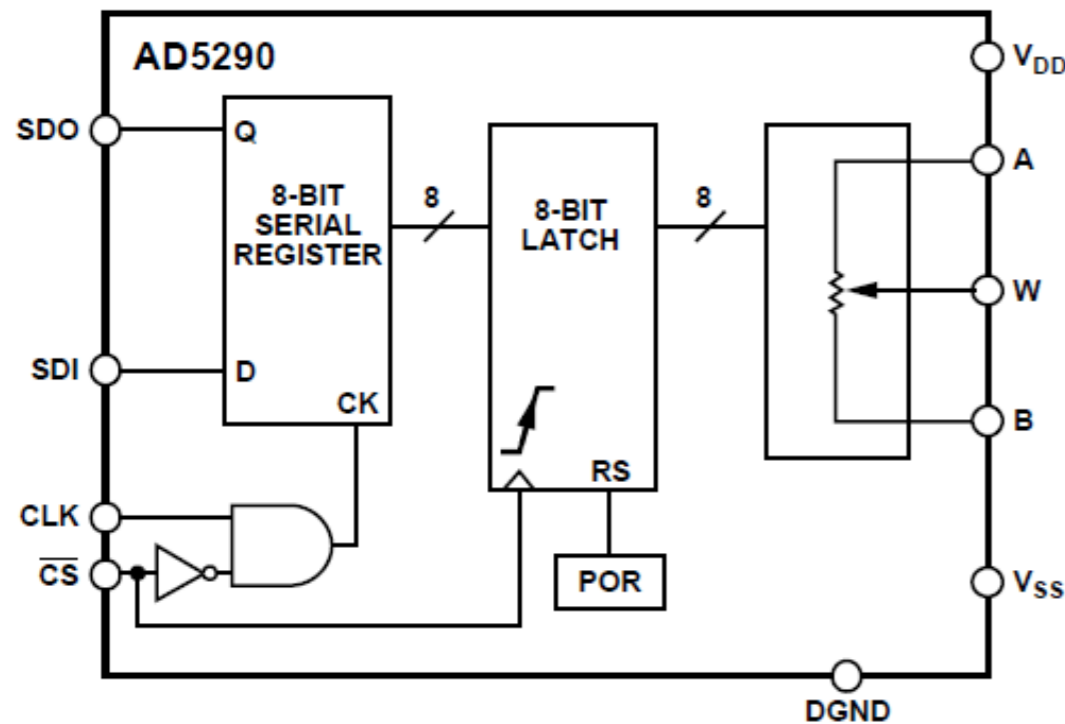
Tested, well working, low
 minimal output voltage.
 Can be used as negative
 and as positive VR with
 floating ground



$$R_2 = (V_{OUT} - 2.37) R_1 / V_{REF}$$

Part#	Channels	Positions	Memory Type	Interface	Resistor Values (kOhms)	Bipolar Voltage Range (V)	Voltage Range (V)	Supply Current	Temp. Range - 40 °C to..	Absolute Tempco (ppm/°C)	Package
AD5290	1	256	Volatile	SPI	10, 50, 100	±15	+30	10µA	105	35	MSOP

FUNCTIONAL BLOCK DIAGRAM



FEATURES

- 256 position
- 10 kΩ, 50 kΩ, 100 kΩ
- +20 V to +30 V single-supply operation
- ±10 V to ±15 V dual-supply operation
- 3-wire SPI®-compatible serial interface
- Low temperature coefficient 35 ppm/oC typical
- THD 0.006% typical
- Midscale preset
- Compact MSOP-10 package
- Automotive temperature range: -40oC to +125oC
- iCMOS™1 process technology*

Guaranteed by design and characterization, not subject to production test :

Capacitance A, C_A 85 pF,

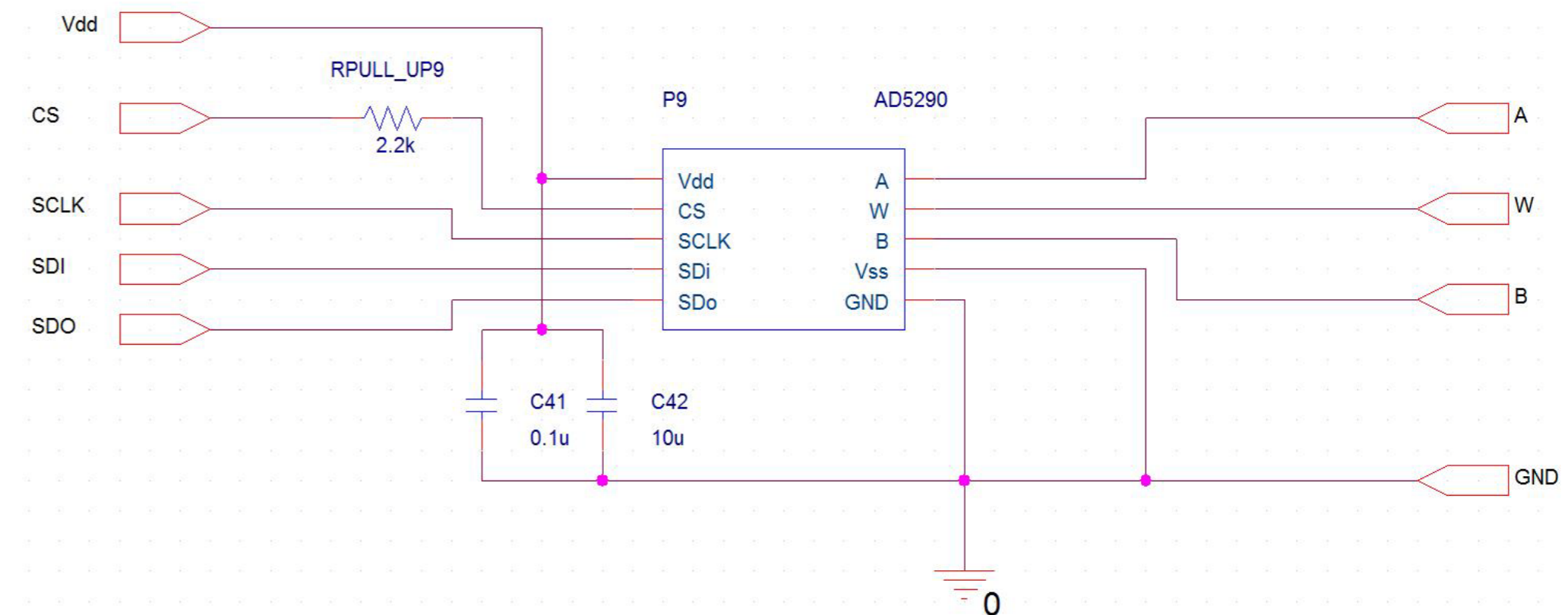
Capacitance B, C_B 85 pF,

Capacitance W, C_W 65 pF,

Input Capacitance, C_{IL} 5 pF,

$R_{PULL_UP} = 2.2\text{ k}\Omega$ to V_{LOGIC} ,

V_{DD} , V_{SS} and V_{LOGIC} pins should be decoupled with 0.1 µF ceramic capacitors and 10 µF capacitors,

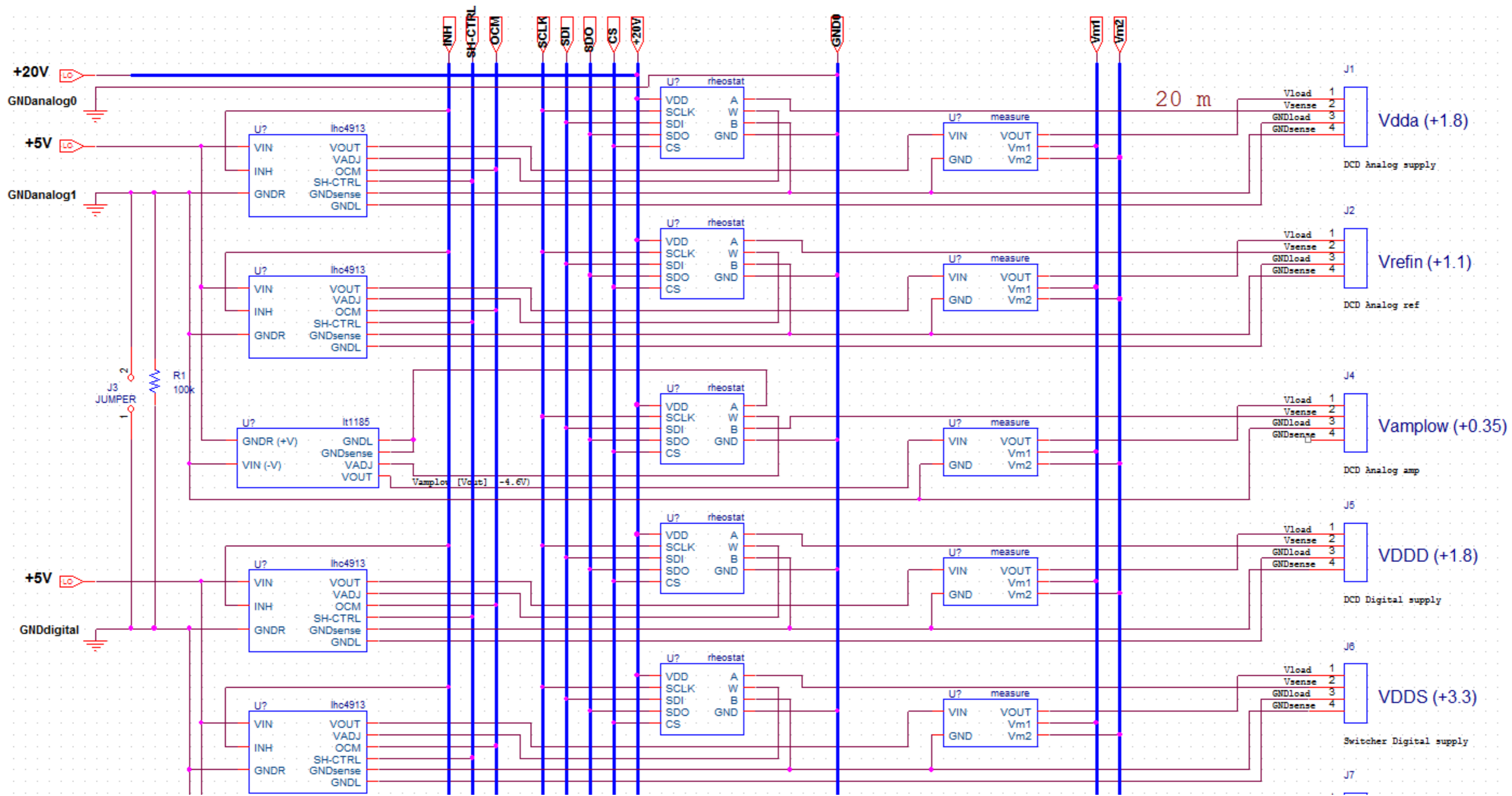


This device can be used as a programmable resistor or resistor divider.

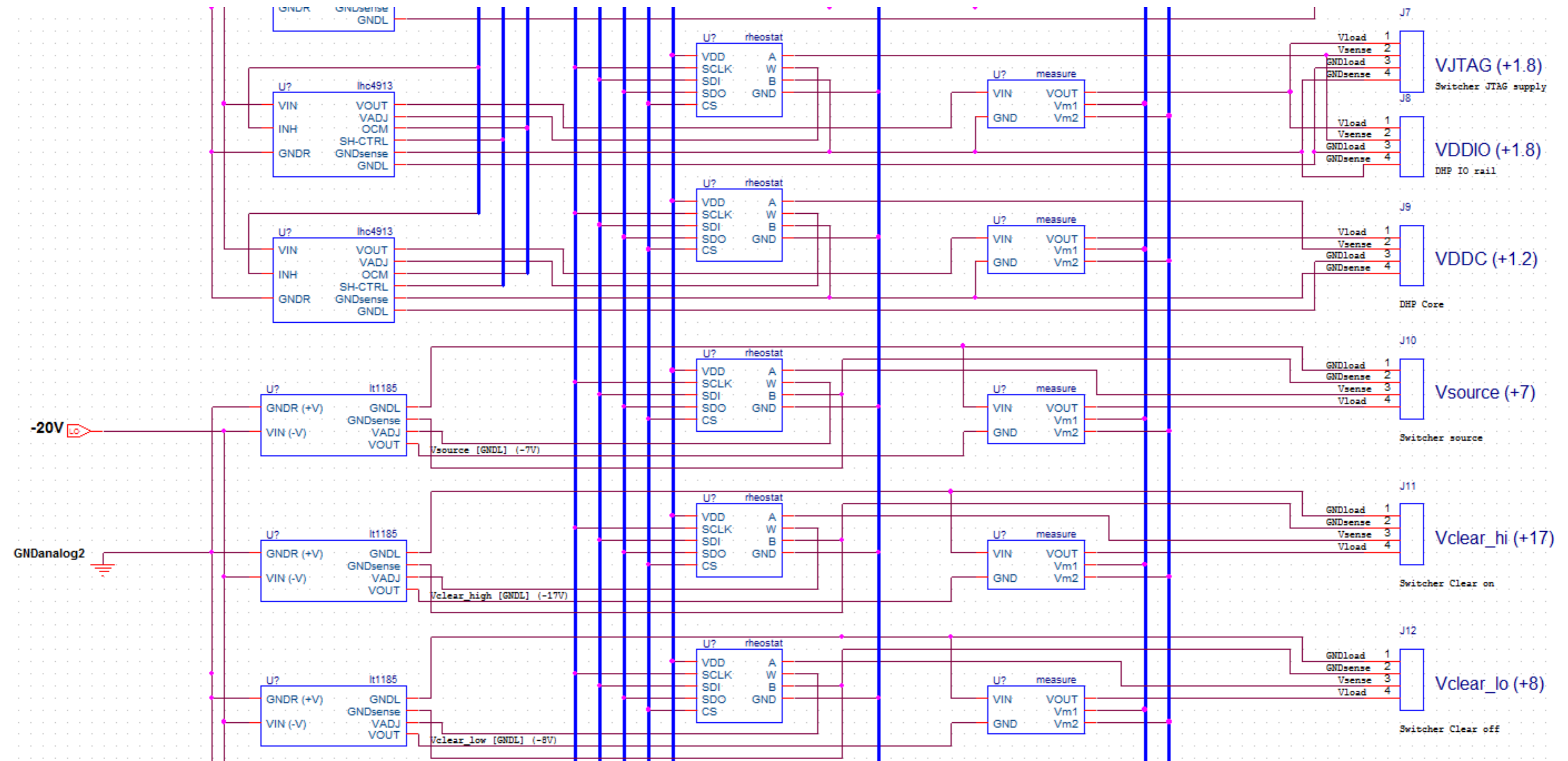
- LT1185 will be used as negative and as positive voltage regulator for Switcher and DEPFET part and Ampflow voltage. For DCD, DHP and Switcher digital part will be used LHC4913 high current regulator;
- Overcurrent protection is implemented in the regulators, additional schematic for overvoltage protection will be used;
- Digital potentiometers AD5290 with Serial Peripheral Interface bus (SPI) will be used as a voltage divider at the voltage regulator's ADJ input;
- One power line (-40V) should be dedicated for back plane voltage.

The END

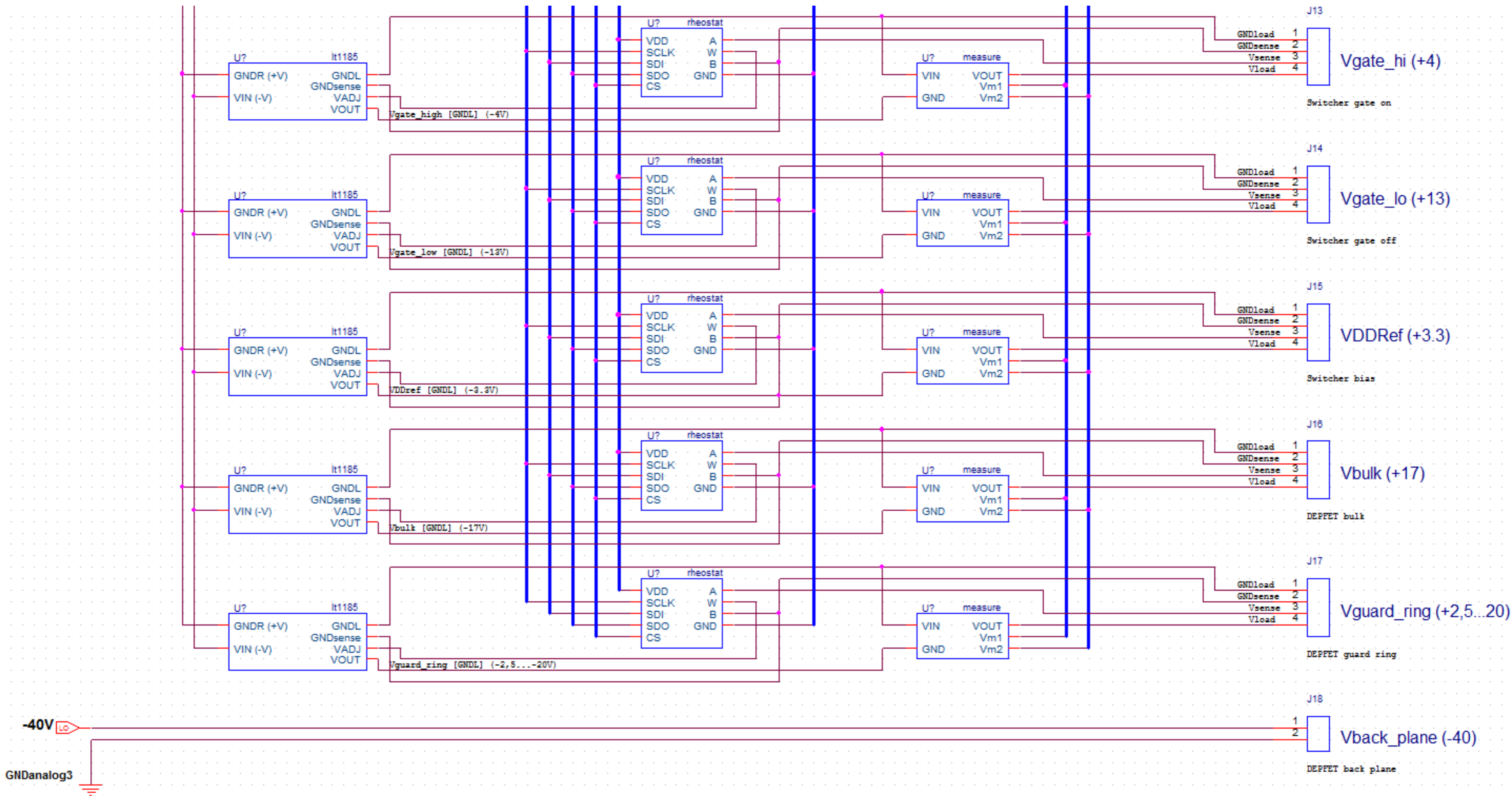
SCHEMATIC (1)

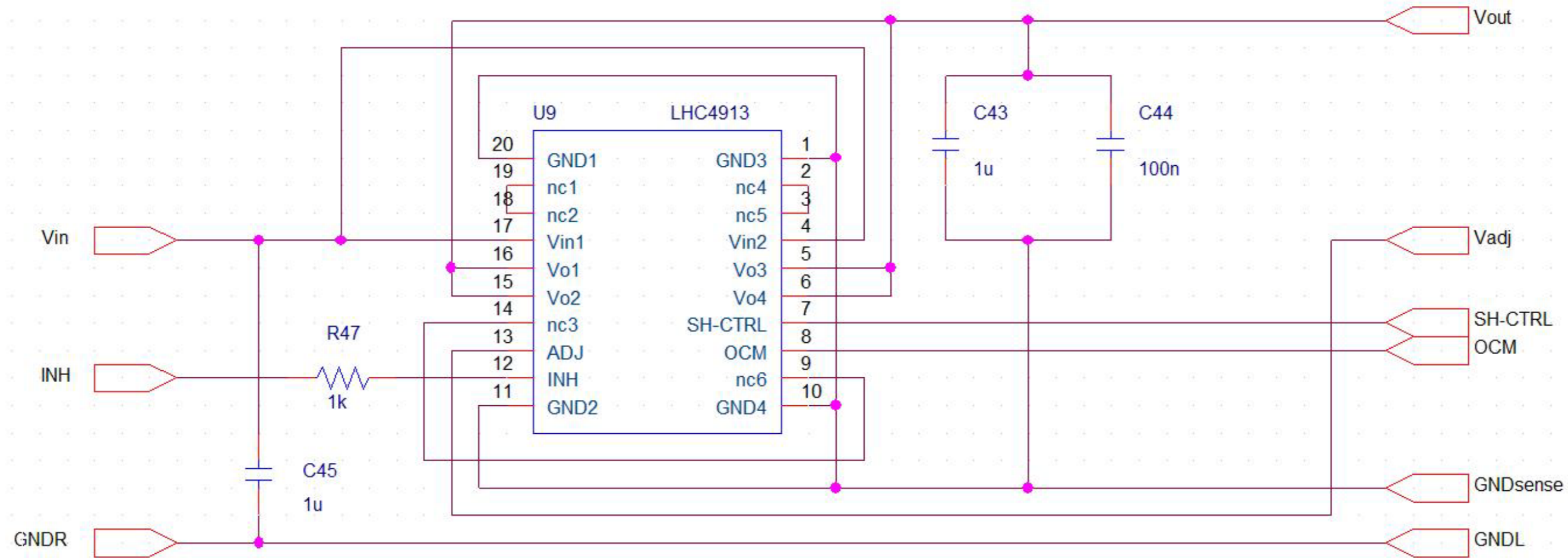


SCHEMATIC (2)

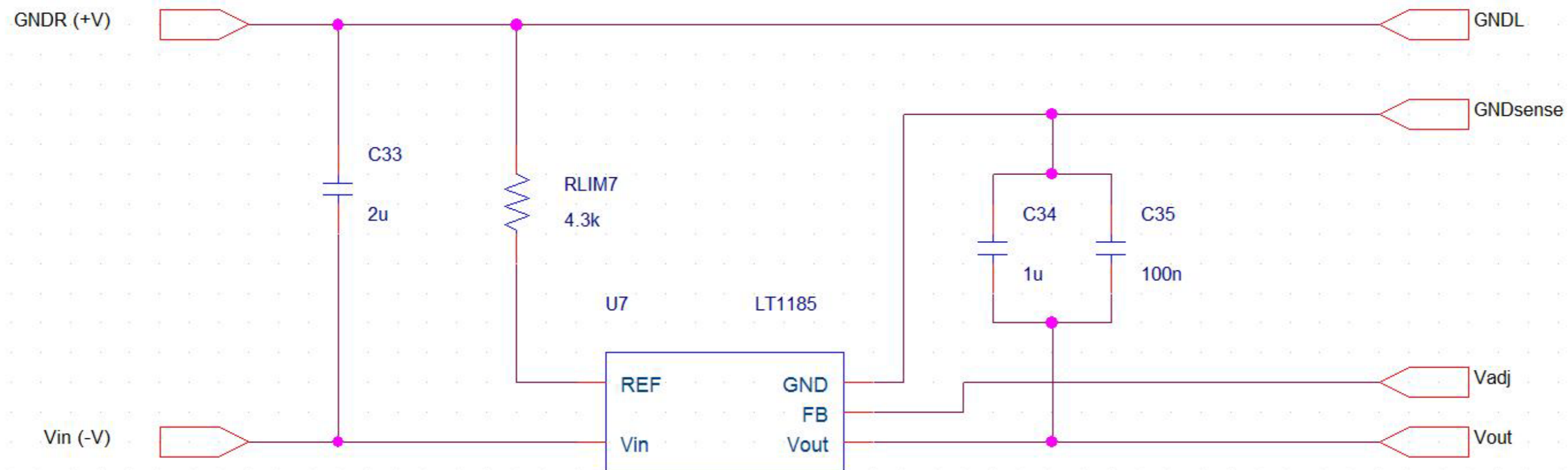


SCHEMATIC (3)





Schematic for positive voltage regulator with a sense line. LHC4913



Schematic for negative voltage regulator with a sense line. LT1185.