

SMPS power pre-regulator with 100% duty cycle

TITLE: EEZ DIB DCP405 r2B7

Document Number:

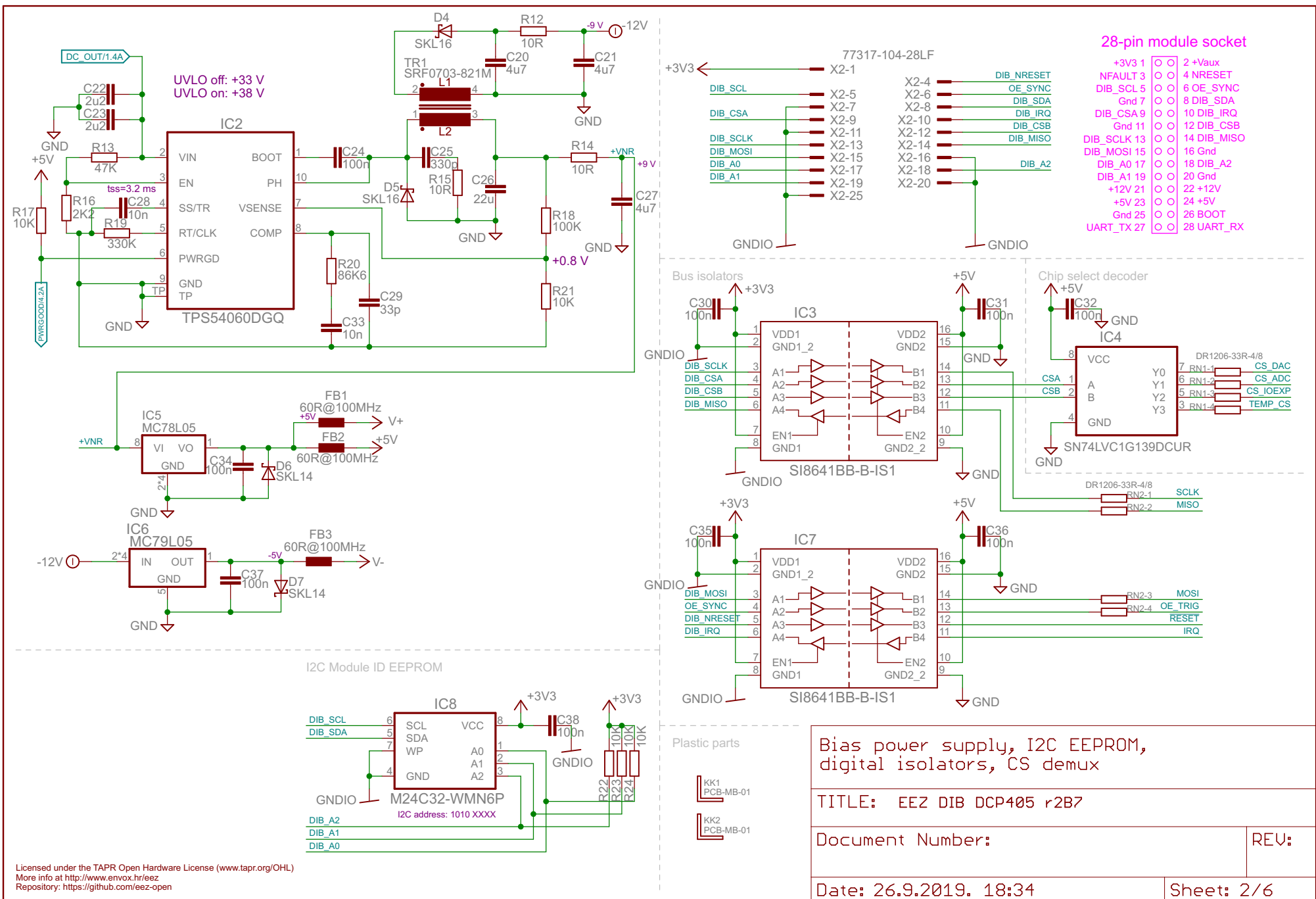
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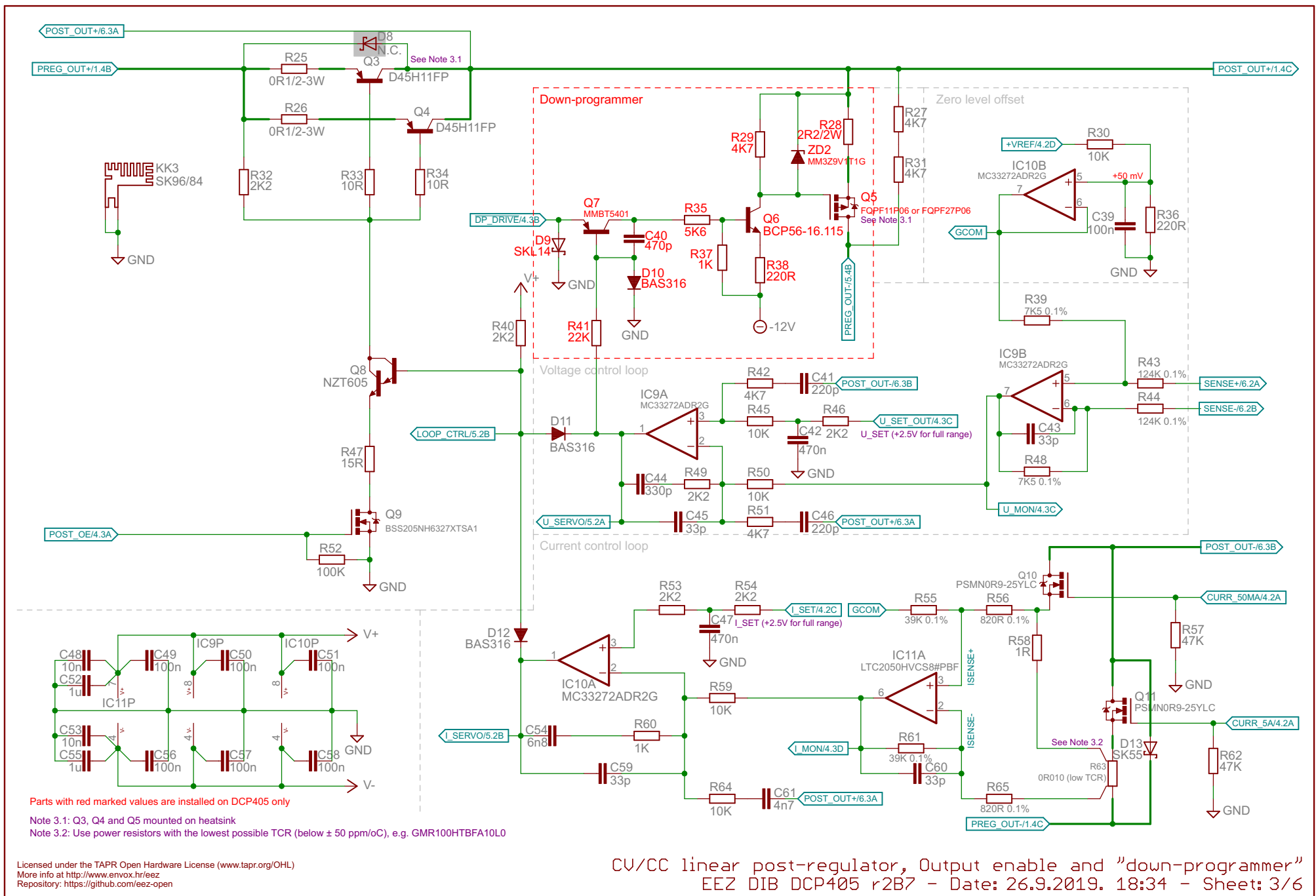
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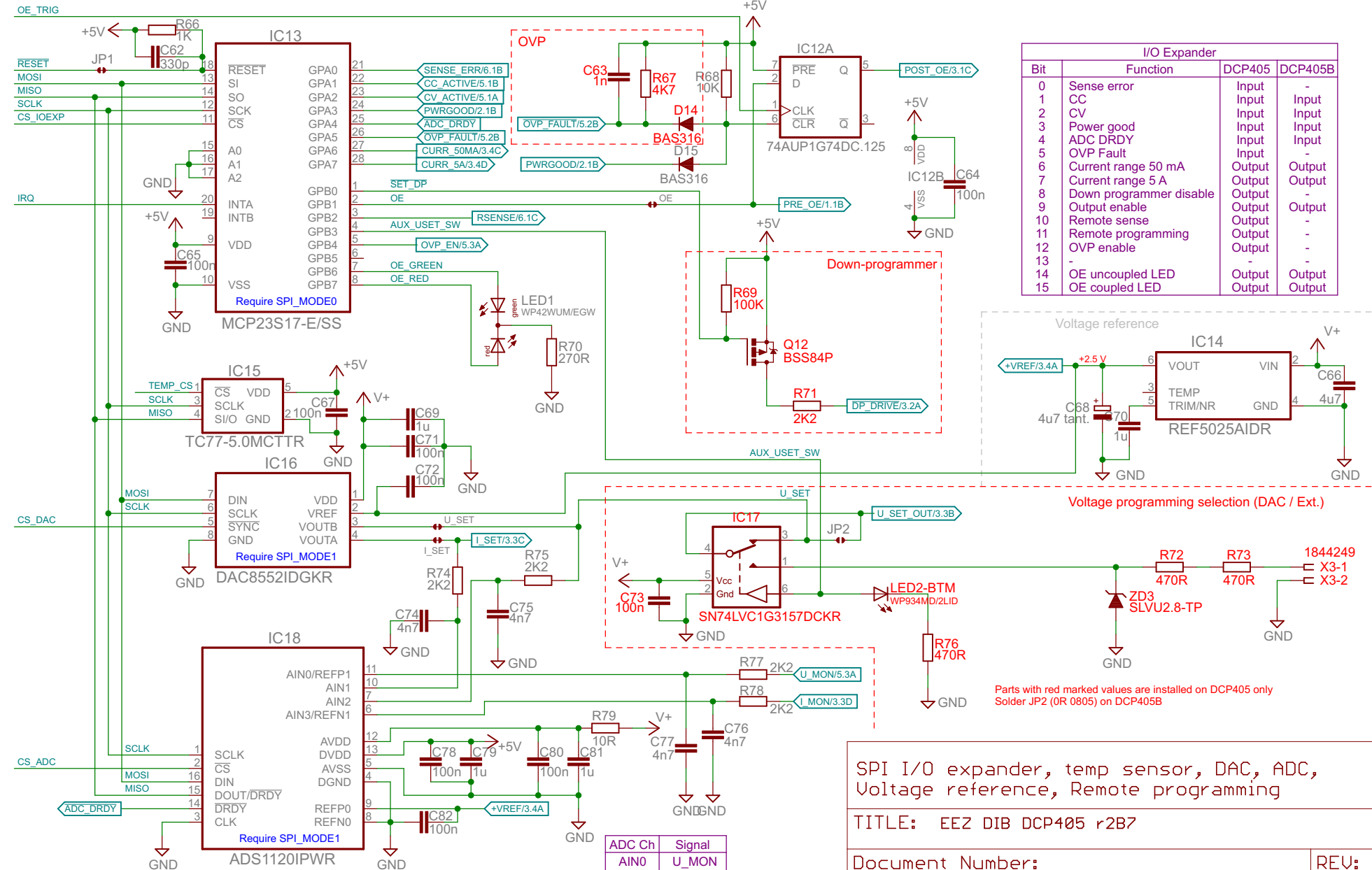
Note 1.1: Possible alternative AUIRFR5305, IRFR5305, SPD30P06P or other with similar or lower input capacitance
 Note 1.2: WE 7447709330, WE 7443551331, Coilcraft MSS1210-333, Coilcraft XAL1510-333, Vishay IHLP4040DZER470M11, etc.

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 More info at <http://www.envox.hr/eez>
 Repository: <https://github.com/eez-open>





Digital control (SPI)



Bit	Function	DCP405	DCP405B
0	Sense error	Input	-
1	CC	Input	Input
2	CV	Input	Input
3	Power good	Input	Input
4	ADC DRDY	Input	Input
5	OVP Fault	Input	-
6	Current range 50 mA	Output	Output
7	Current range 5 A	Output	Output
8	Down programmer disable	Output	-
9	Output enable	Output	Output
10	Remote sense	Output	-
11	Remote programming	Output	-
12	OVP enable	Output	-
13	-	-	-
14	OE uncoupled LED	Output	Output
15	OE coupled LED	Output	Output

Parts with red marked values are installed on DCP405 only
Solder JP2 (0R 0805) on DCP405B

SPI I/O expander, temp sensor, DAC, ADC, Voltage reference, Remote programming

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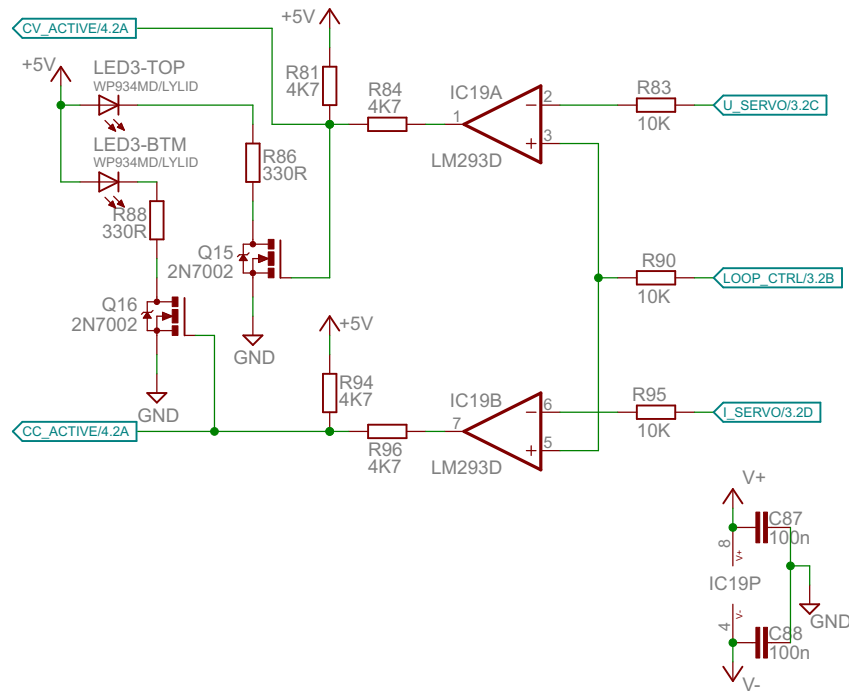
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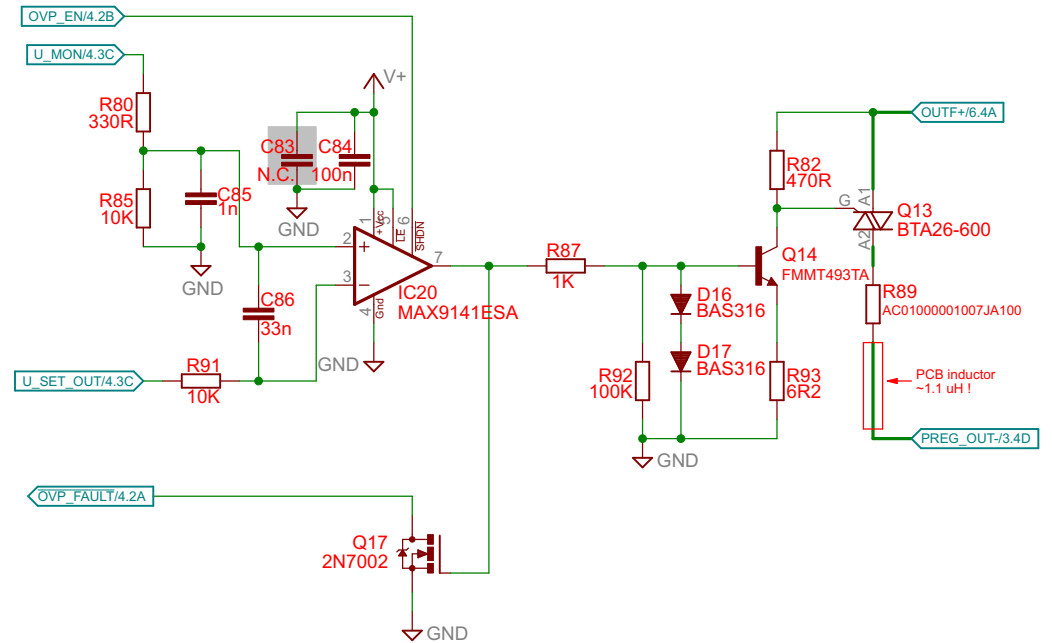
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ADC Ch	Signal
AIN0	U_MON
AIN1	I_SET
AIN2	U_SET
AIN3	I_MON

Constant Voltage (CV) and Constant Current (CC) mode detection and indication



Over-voltage protection (OVP)



CC/CV mode detection and indication, OVP

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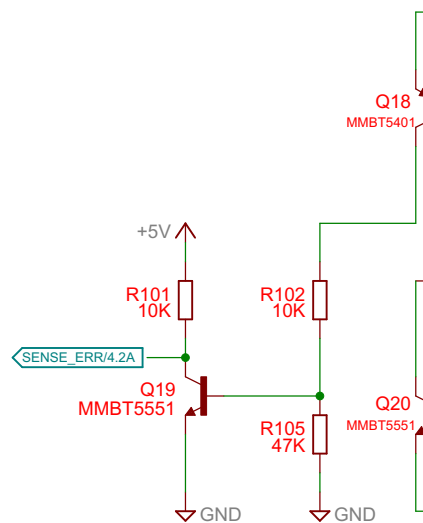
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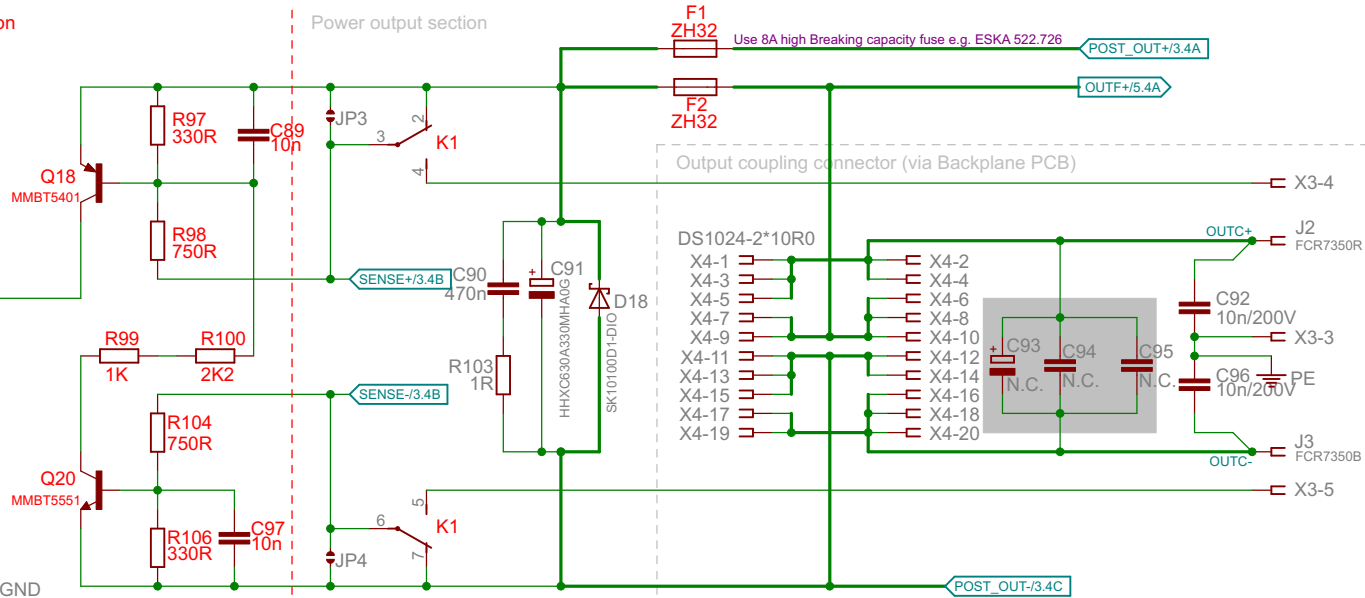
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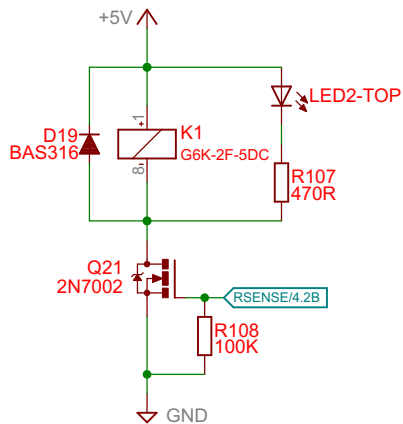
Remote sense reverse polarity detection



Power output section



Remote sense selection



20-pin power socket

OUTC+ 1	2 OUTC+
OUTC+ 3	4 OUTC+
OUTC+ 5	6 POST_OUT+ (fused)
POST_OUT+ (fused) 7	8 POST_OUT+ (fused)
POST_OUT+ (fused) 9	10 POST_OUT+ (fused)
POST_OUT- 11	12 POST_OUT-
POST_OUT- 13	14 POST_OUT-
POST_OUT- 15	16 OUTC-
OUTC- 17	18 OUTC-
OUTC- 19	20 OUTC-

Rsense polarity protection
Output coupling, Rsense relay

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Solder JP3, JP4 (0R 0805) and use wire jumper instead of F1 and F2 on DCP405B
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More info at <http://www.envox.hr/eez>
Repository: <https://github.com/eez-open>