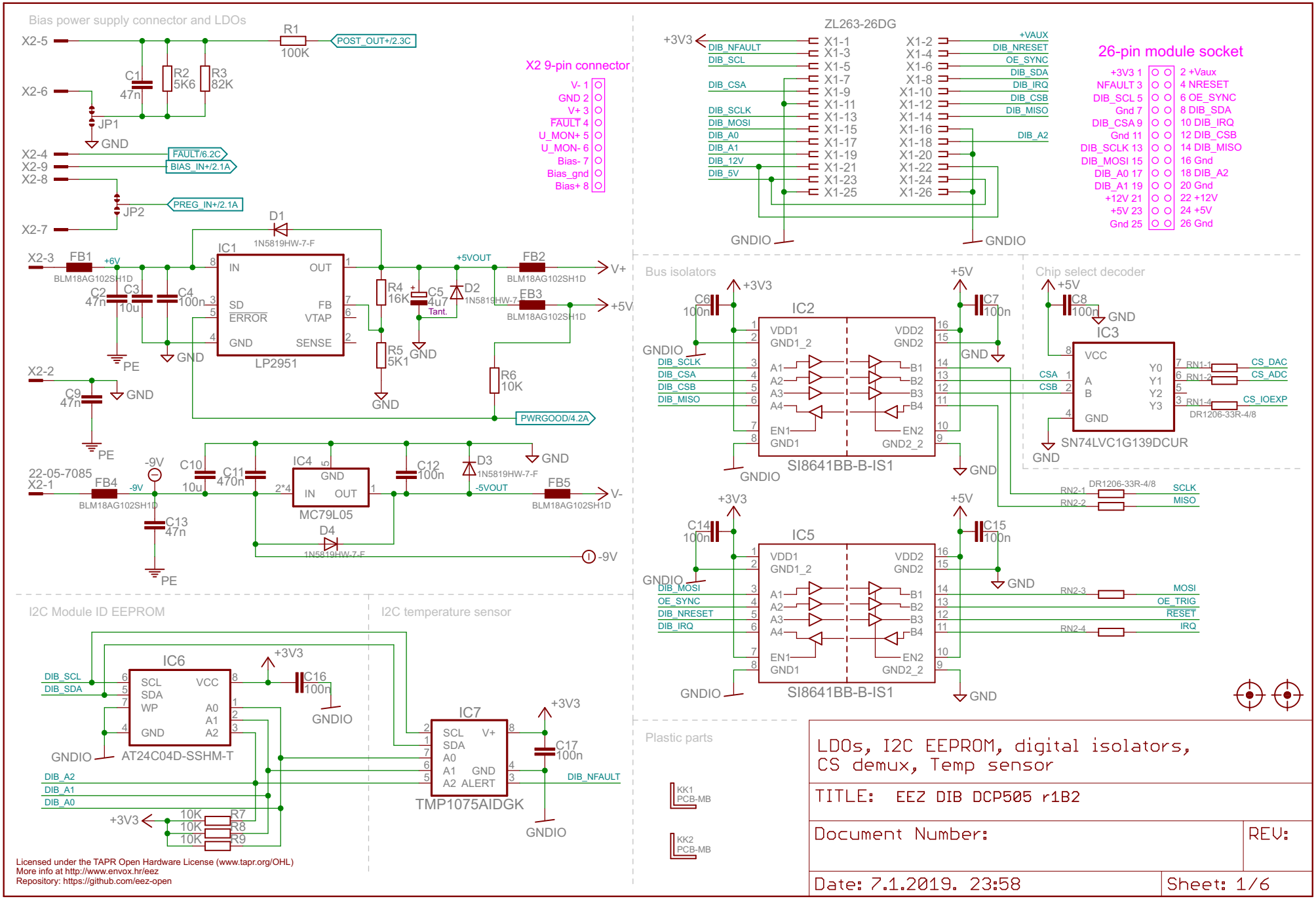
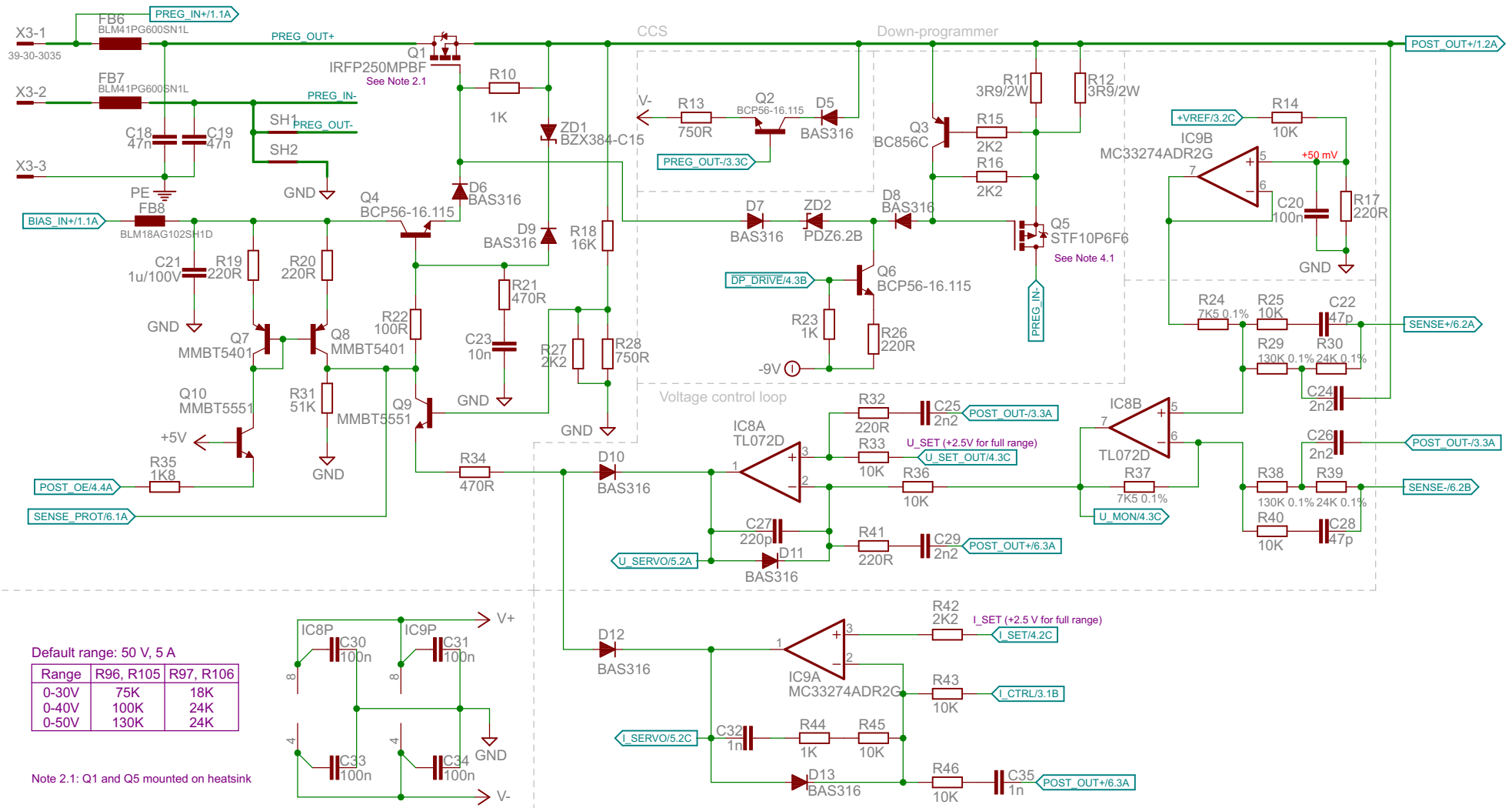

Bias power supply connector and LDOs
X2-5
X2-6
X2-4
X2-9
X2-8
X2-7
X2-3
X2-2
X2-1
R1
100K
POST_OUT+/2.3C
C1
47n
R2
5K6
R3
82K
JP1
GND
FAULT/6.2C
BIAS_IN+/2.1A
JP2
PREG_IN+/2.1A
D1
1N5819HW-7-F
IC1
IN
OUT
SD
ERROR
GND
FB
VTAP
SENSE
LP2951
FB1
BLM18AG102SH1D
+6V
C2
47n
C3
10u
C4
100n
PE
GND
R4
16K
C5
4u7
Tant.
D2
1N5819HW-7-F
+5VOUT
FB2
BLM18AG102SH1D
V+
FB3
+5V
R5
5K1
R6
10K
PWRGOOD/4.2A
C9
47n
22-05-7085
FB4
-9V
C10
10u
C11
470n
IC4
MC79L05
2*4
C12
100n
D3
-5VOUT
FB5
V-
C13
47n
D4
X2 9-pin connector
V- 1
GND 2
V+ 3
FAULT 4
U_MON+ 5
U_MON- 6
Bias- 7
Bias_gnd
Bias+ 8
ZL263-26DG
+3V3
DIB_NFAULT
DIB_SCL
DIB_CSA
DIB_SCLK
DIB_MOSI
DIB_A0
DIB_A1
DIB_12V
DIB_5V
X1-1
X1-3
X1-5
X1-7
X1-9
X1-11
X1-13
X1-15
X1-17
X1-19
X1-21
X1-23
X1-25
X1-2
X1-4
X1-6
X1-8
X1-10
X1-12
X1-14
X1-16
X1-18
X1-20
X1-22
X1-24
X1-26
+VAUX
DIB_NRESET
OE_SYNC
DIB_SDA
DIB_IRQ
DIB_CSB
DIB_MISO
DIB_A2
GNDIO
26-pin module socket
+3V3 1
NFAULT 3
DIB_SCL 5
Gnd 7
DIB_CSA 9
Gnd 11
DIB_SCLK 13
DIB_MOSI 15
DIB_A0 17
DIB_A1 19
+12V 21
+5V 23
Gnd 25
2 +Vaux
4 NRESET
6 OE_SYNC
8 DIB_SDA
10 DIB_IRQ
12 DIB_CSB
14 DIB_MISO
16 Gnd
18 DIB_A2
20 Gnd
22 +12V
24 +5V
26 Gnd
Bus isolators
C6
100n
IC2
VDD1
GND1_2
A1
A2
A3
A4
EN1
GND1
VDD2
GND2
B1
B2
B3
B4
EN2
GND2_2
SI8641BB-B-IS1
C7
100n
+5V
DIB_SCLK
DIB_CSA
DIB_CSB
DIB_MISO
Chip select decoder
C8
100n
IC3
VCC
A
B
GND
Y0
Y1
Y2
Y3
CSA
CSB
RN1-1
RN1-2
RN1-4
CS_DAC
CS_ADC
CS_IOEXP
DR1206-33R-4/8
SN74LVC1G139DCUR
RN2-1
RN2-2
SCLK
MISO
C14
100n
IC5
C15
100n
DIB_MOSI
OE_SYNC
DIB_NRESET
DIB_IRQ
RN2-3
RN2-4
MOSI
OE_TRIG
RESET
IRQ
I2C Module ID EEPROM
IC6
SCL
SDA
WP
A0
A1
A2
AT24C04D-SSHM-T
C16
100n
I2C temperature sensor
IC7
V+
ALERT
TMP1075AIDGK
C17
100n
DIB_A2
DIB_A1
DIB_A0
10K
R7
R8
R9
Plastic parts
KK1
PCB-MB
KK2
PCB-MB
Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at http://www.envox.hr/eez
Repository: https://github.com/eez-open
LDOs, I2C EEPROM, digital isolators,
CS demux, Temp sensor
TITLE: EEZ DIB DCP505 r1B2
Document Number:
REV:
Date: 7.1.2019. 23:58
Sheet: 1/6



Default range: 50 V, 5 A

Range	R96, R105	R97, R106
0-30V	75K	18K
0-40V	100K	24K
0-50V	130K	24K

Note 2.1: Q1 and Q5 mounted on heatsink

Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at http://www.envox.hr/eez
Repository: https://github.com/eez-open

CV/CC control loop, Output enable
Down-programmer

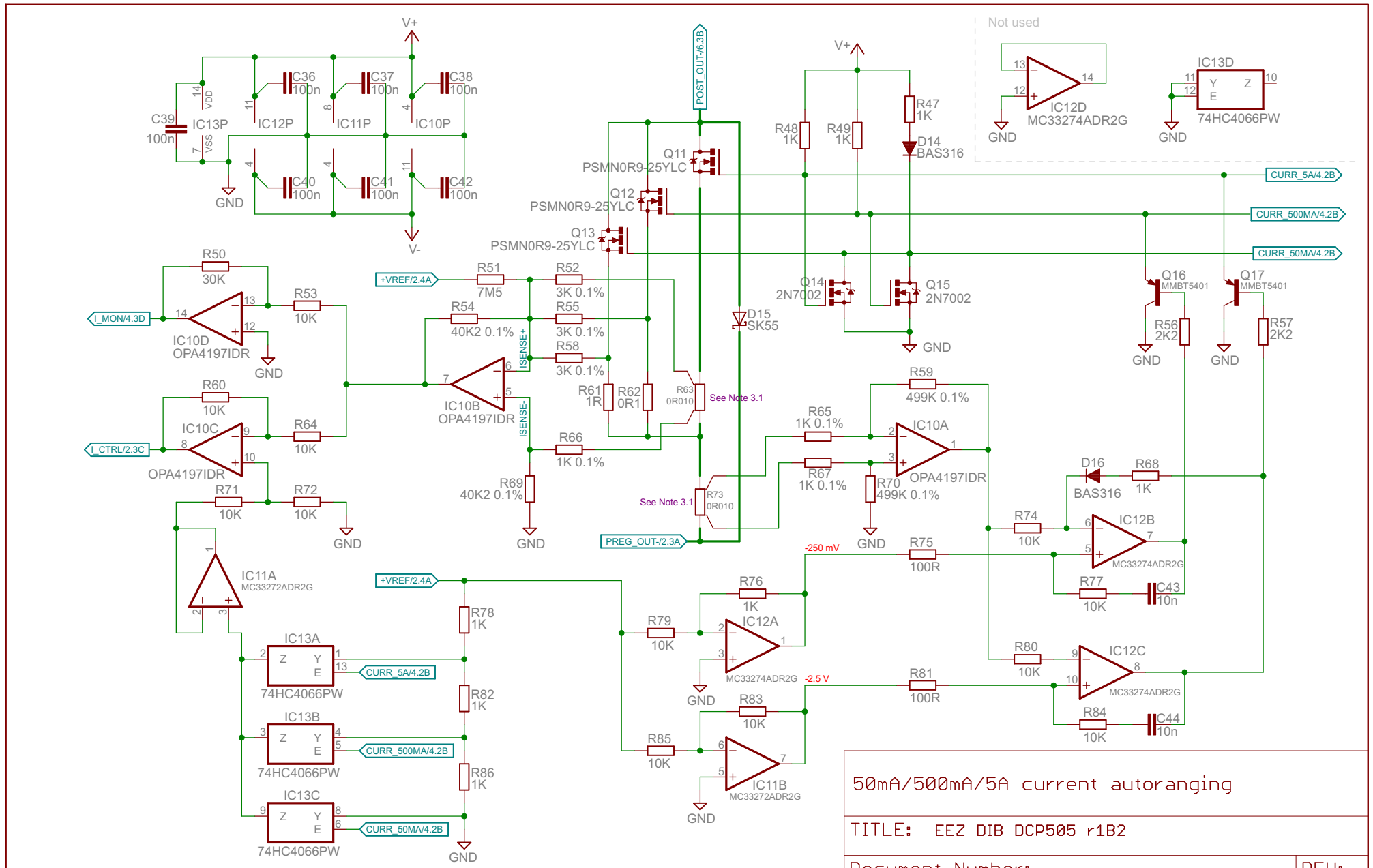
TITLE: EEZ DIB DCP505 r1B2

Document Number:

REV:

Date: 7.1.2019. 23:58

Sheet: 2/6



Note 3.1: Use power resistors with the lowest possible TCR (below ± 50 ppm/oC), e.g. GMR100HTBFA10L0, CSSH2728FT10L0 or OARS1 - R010FI

Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at http://www.envox.hr/eez
Repository: https://github.com/eez-open

50mA/500mA/5A current autoranging

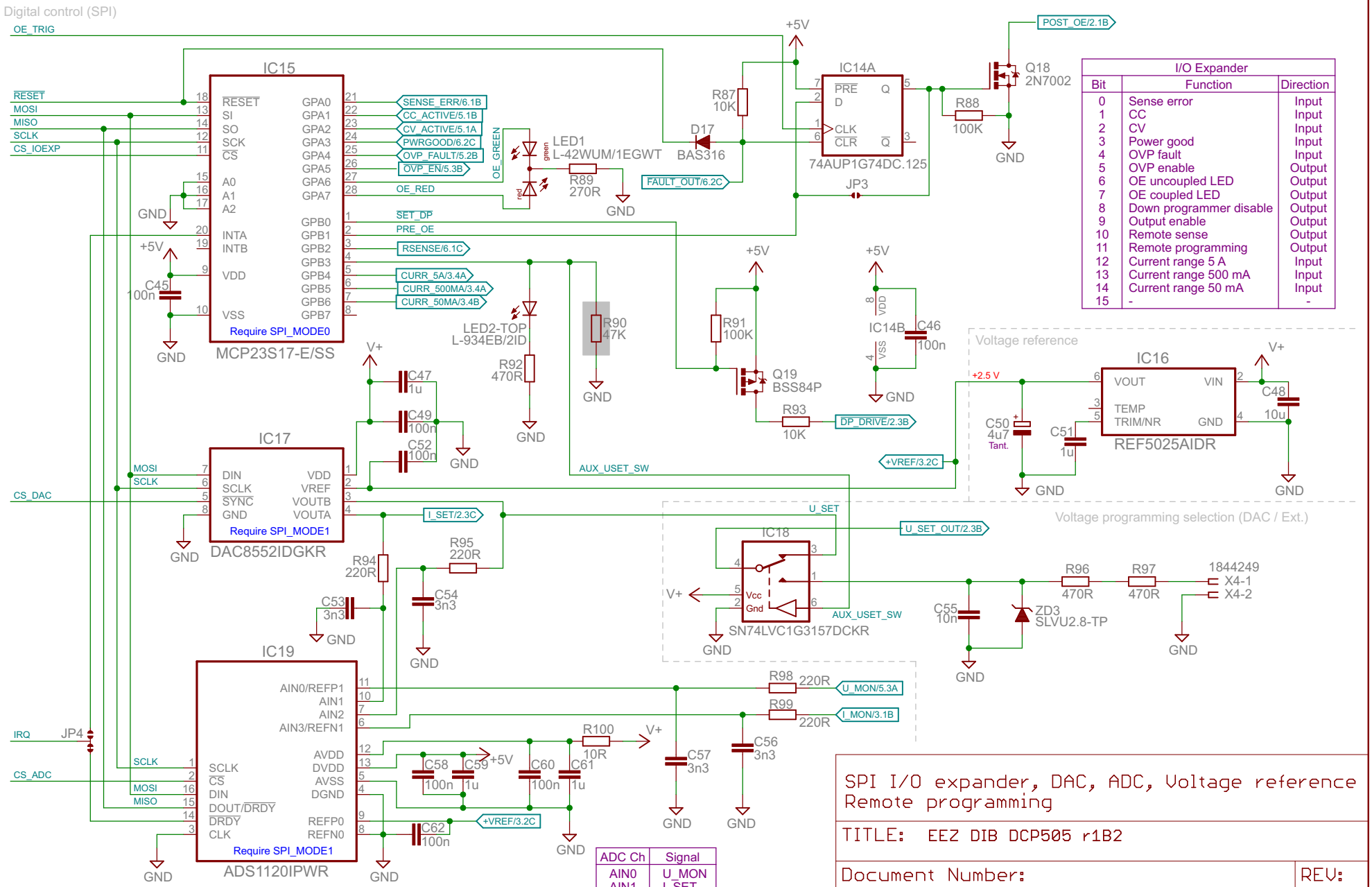
TITLE: EEZ DIB DCP505 r1B2

Document Number:

REV:

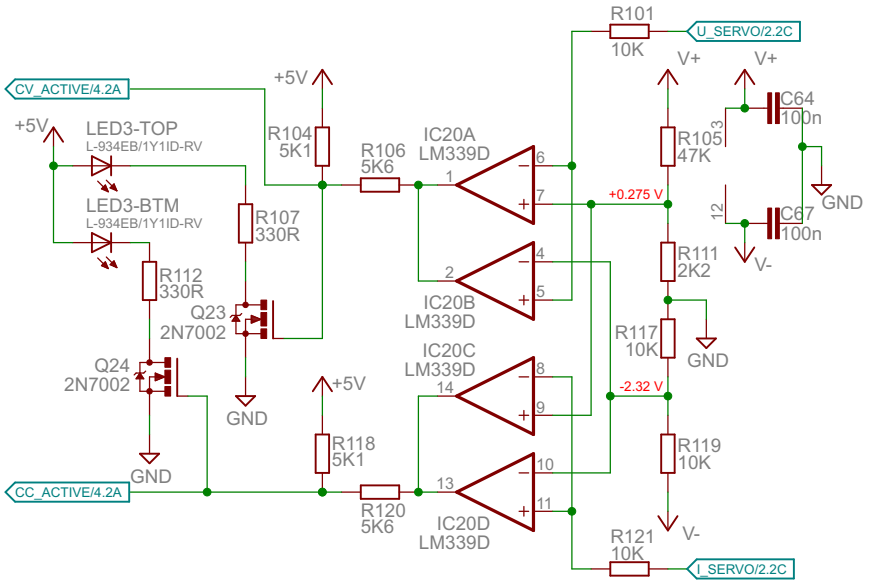
Date: 7.1.2019. 23:58

Sheet: 3/6

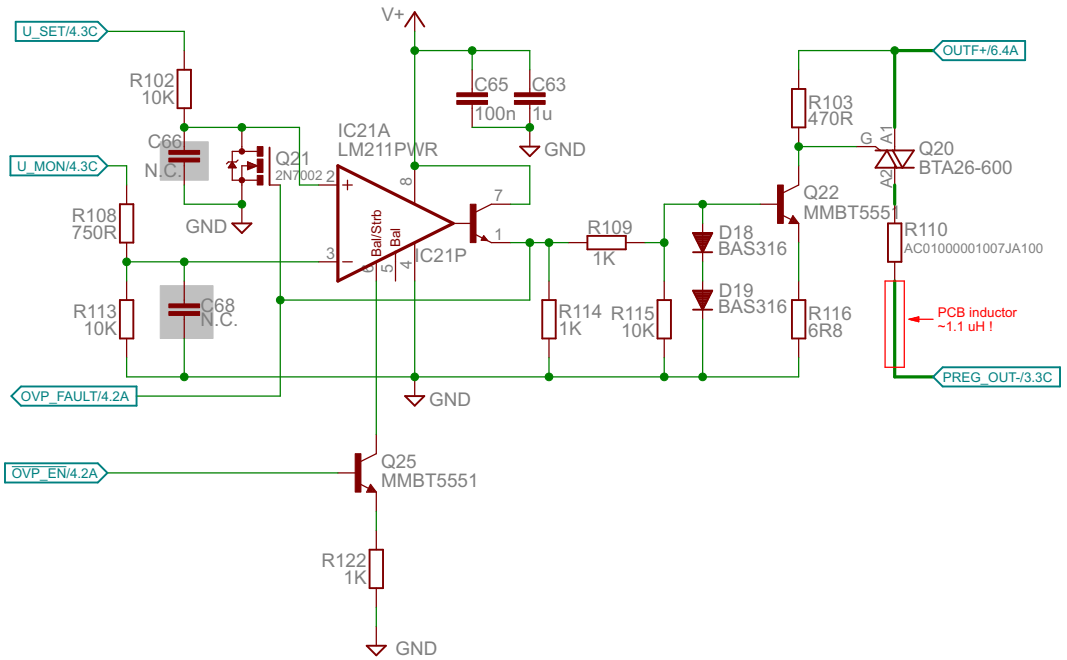


Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at http://www.envox.hr/eez
Repository: https://github.com/eez-open

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



Over-voltage protection (OVP)



CC/CV mode detection and indication, OVP

TITLE: EEZ DIB DCP505 r1B2

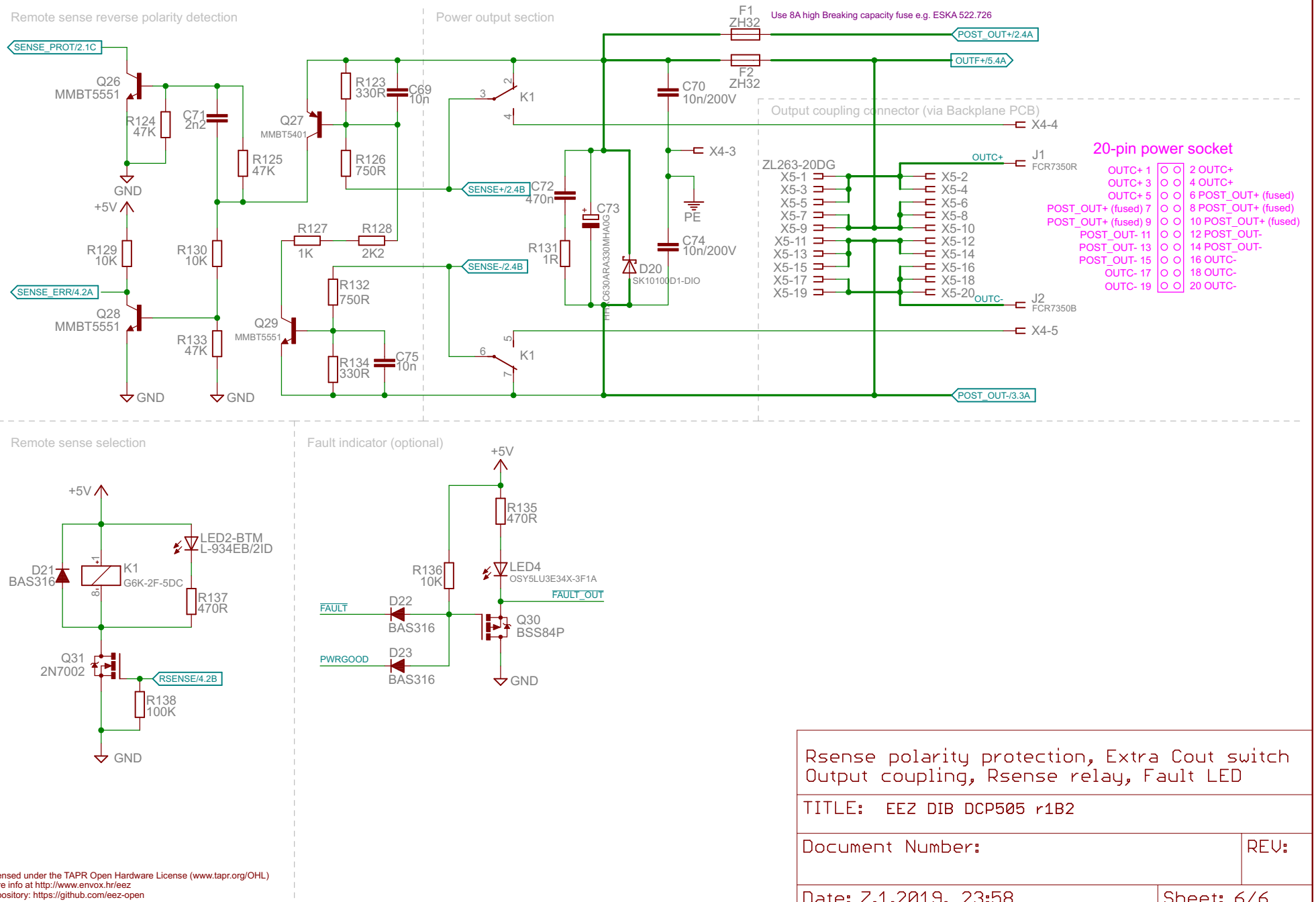
Document Number:

REV:

Date: 7.1.2019. 23:58

Sheet: 5/6

Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at http://www.envox.hr/eez
Repository: https://github.com/eez-open


Remote sense reverse polarity detection
Power output section
Use 8A high Breaking capacity fuse e.g. ESKA 522.726
F1 ZH32
F2 ZH32
POST_OUT+/2.4A
OUTF+/5.4A
SENSE_PROT/2.1C
Q26 MMBT5551
R124 47K
C71 2n2
R125 47K
Q27 MMBT5401
R123 330R
C69 10n
R126 750R
K1
C70 10n/200V
X4-3
X4-4
SENSE+/2.4B
C72 470n
C73
D20 SK10100D1-DIO
PE
C74 10n/200V
R131 1R
R127 1K
R128 2K2
R129 10K
R130 10K
SENSE_ERR/4.2A
Q28 MMBT5551
R133 47K
Q29 MMBT5551
R132 750R
R134 330R
C75 10n
SENSE-/2.4B
X4-5
POST_OUT-/3.3A
GND
+5V
Output coupling connector (via Backplane PCB)
ZL263-20DG
X5-1
X5-3
X5-5
X5-7
X5-9
X5-11
X5-13
X5-15
X5-17
X5-19
X5-2
X5-4
X5-6
X5-8
X5-10
X5-12
X5-14
X5-16
X5-18
X5-20
OUTC+
J1 FCR7350R
OUTC-
J2 FCR7350B
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-
Remote sense selection
+5V
LED2-BTM L-934EB/2ID
D21 BAS316
K1 G6K-2F-5DC
R137 470R
Q31 2N7002
RSENSE/4.2B
R138 100K
GND
Fault indicator (optional)
+5V
R135 470R
R136 10K
LED4 OSY5LU3E34X-3F1A
FAULT_OUT
FAULT
D22 BAS316
Q30 BSS84P
PWRGOOD
D23 BAS316
GND
Rsense polarity protection, Extra Cout switch
Output coupling, Rsense relay, Fault LED
TITLE: EEZ DIB DCP505 r1B2
Document Number:
REV:
Date: 7.1.2019. 23:58
Sheet: 6/6
Licensed under the TAPR Open Hardware License (www.tapr.org/OHL)
More info at http://www.envox.hr/eez
Repository: https://github.com/eez-open