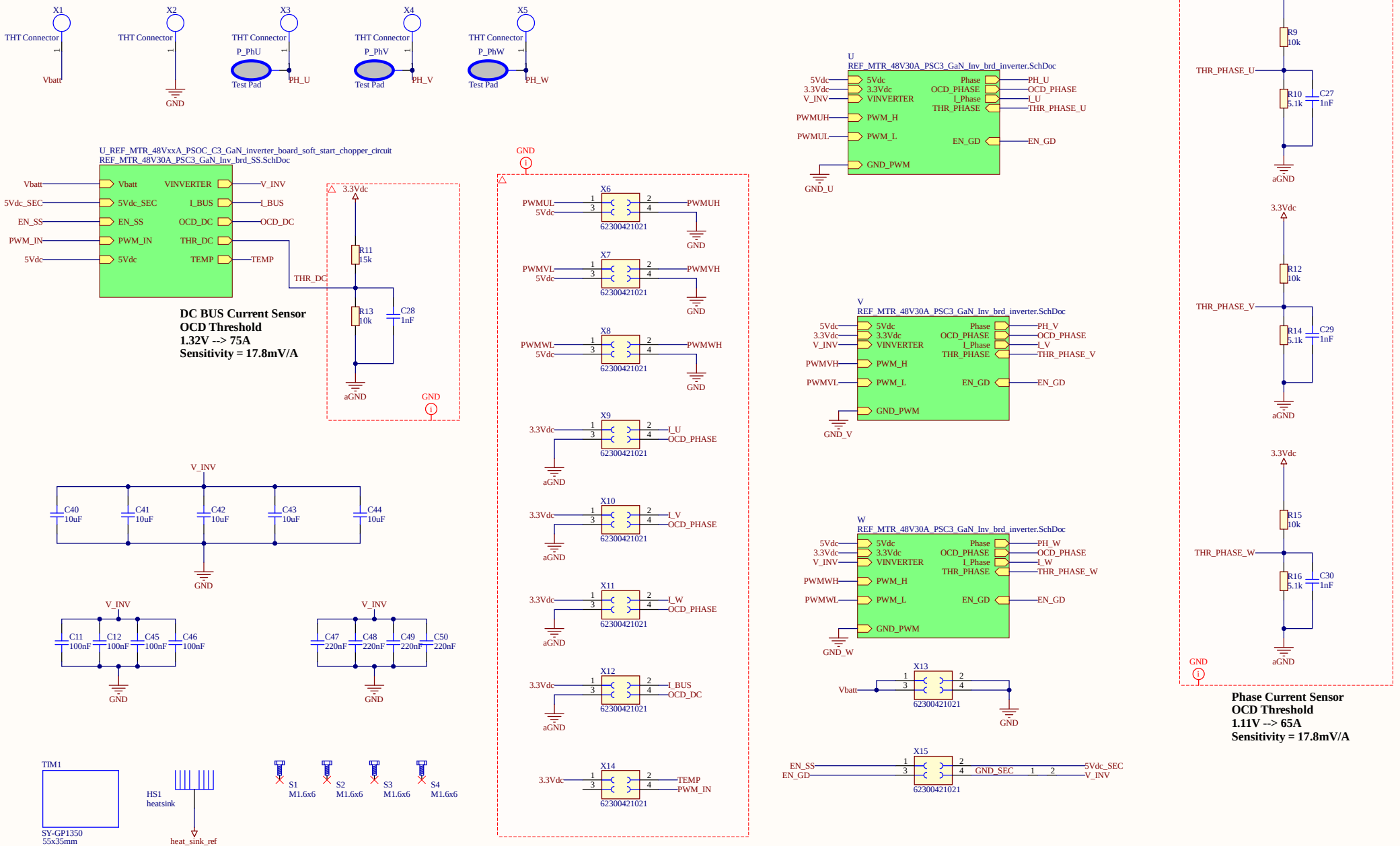
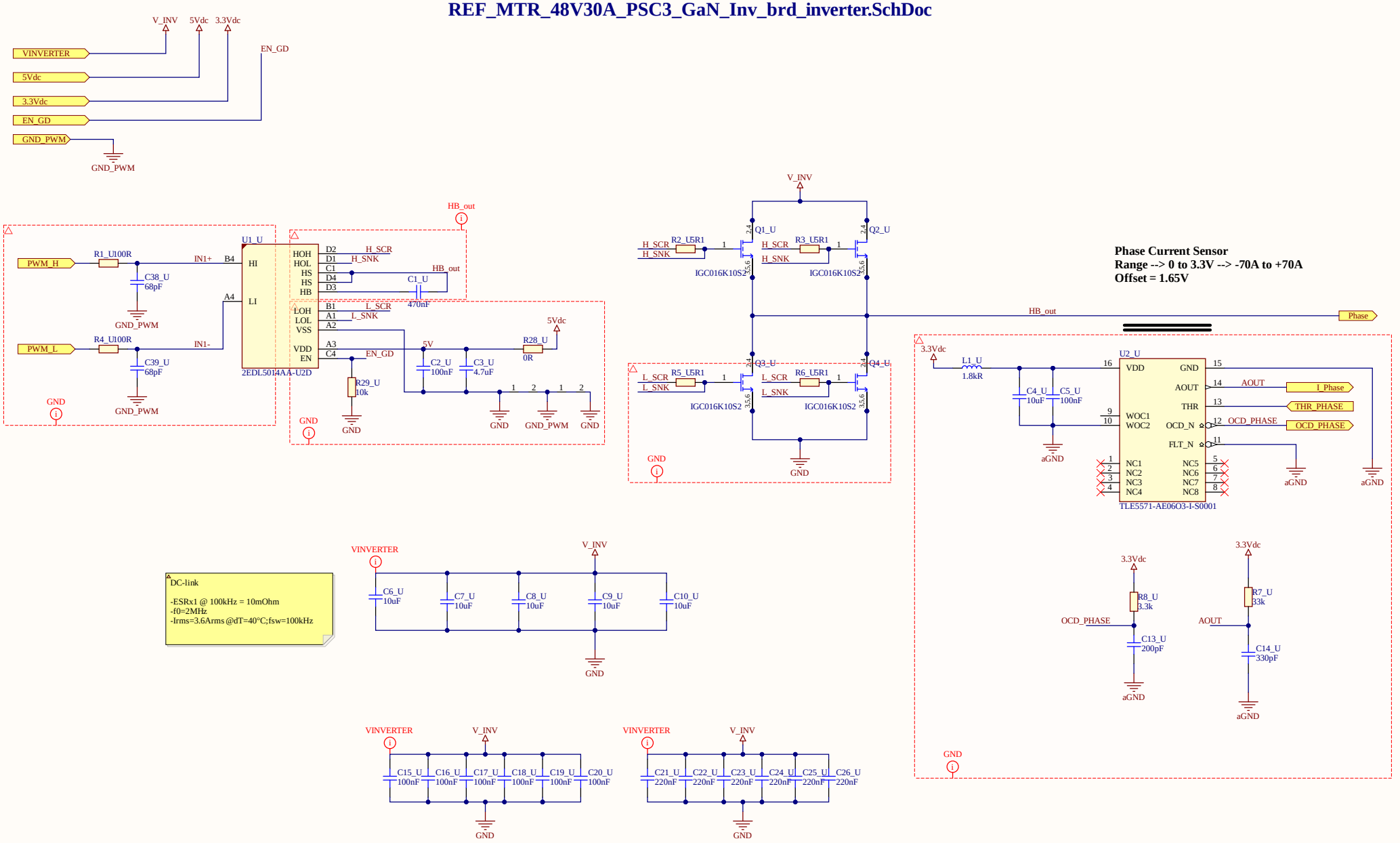
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Drawn By	Shubhendu Sitoke
Approved By	Cannone Marco
Rev	3.0
Date:	23-07-2026
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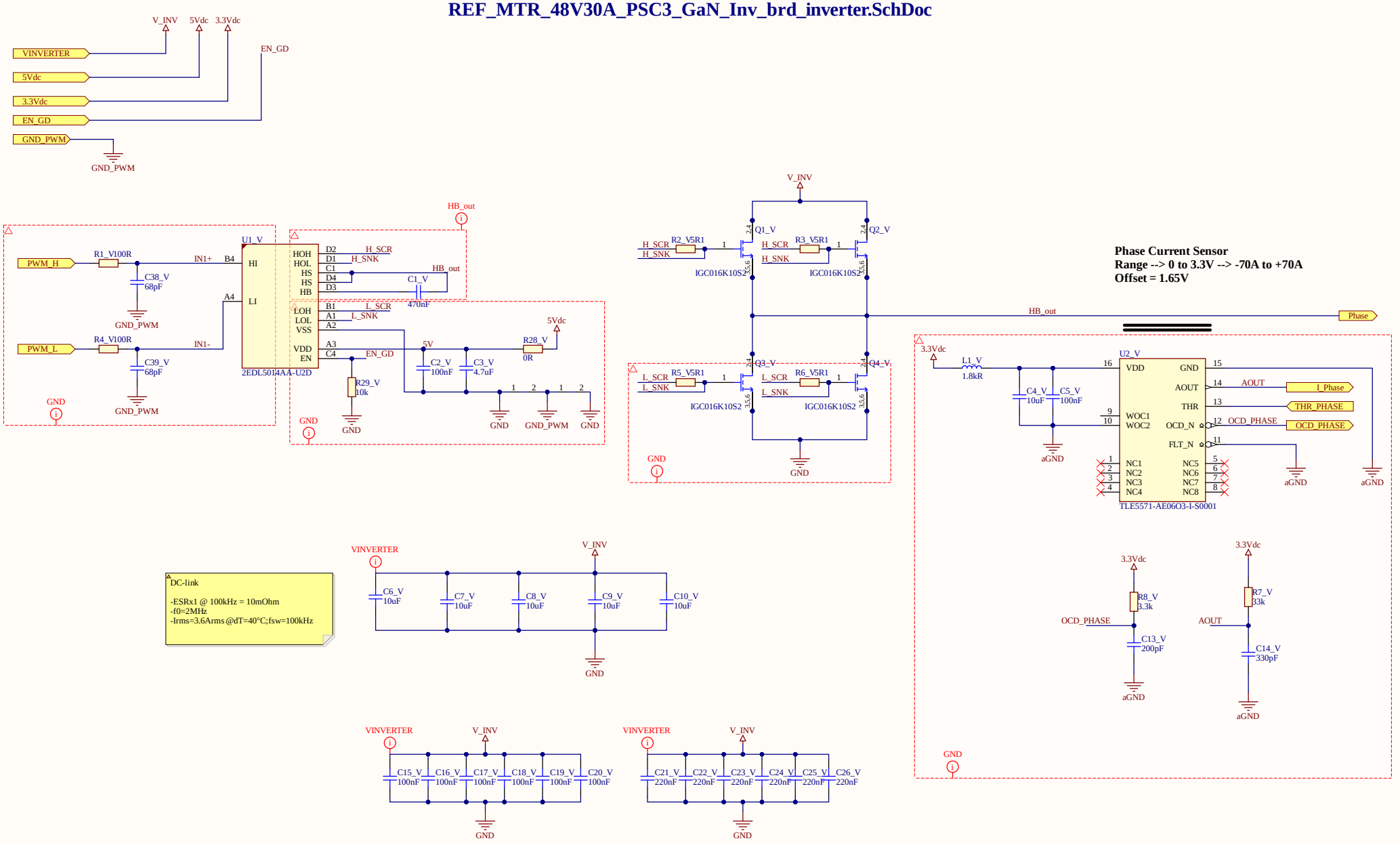
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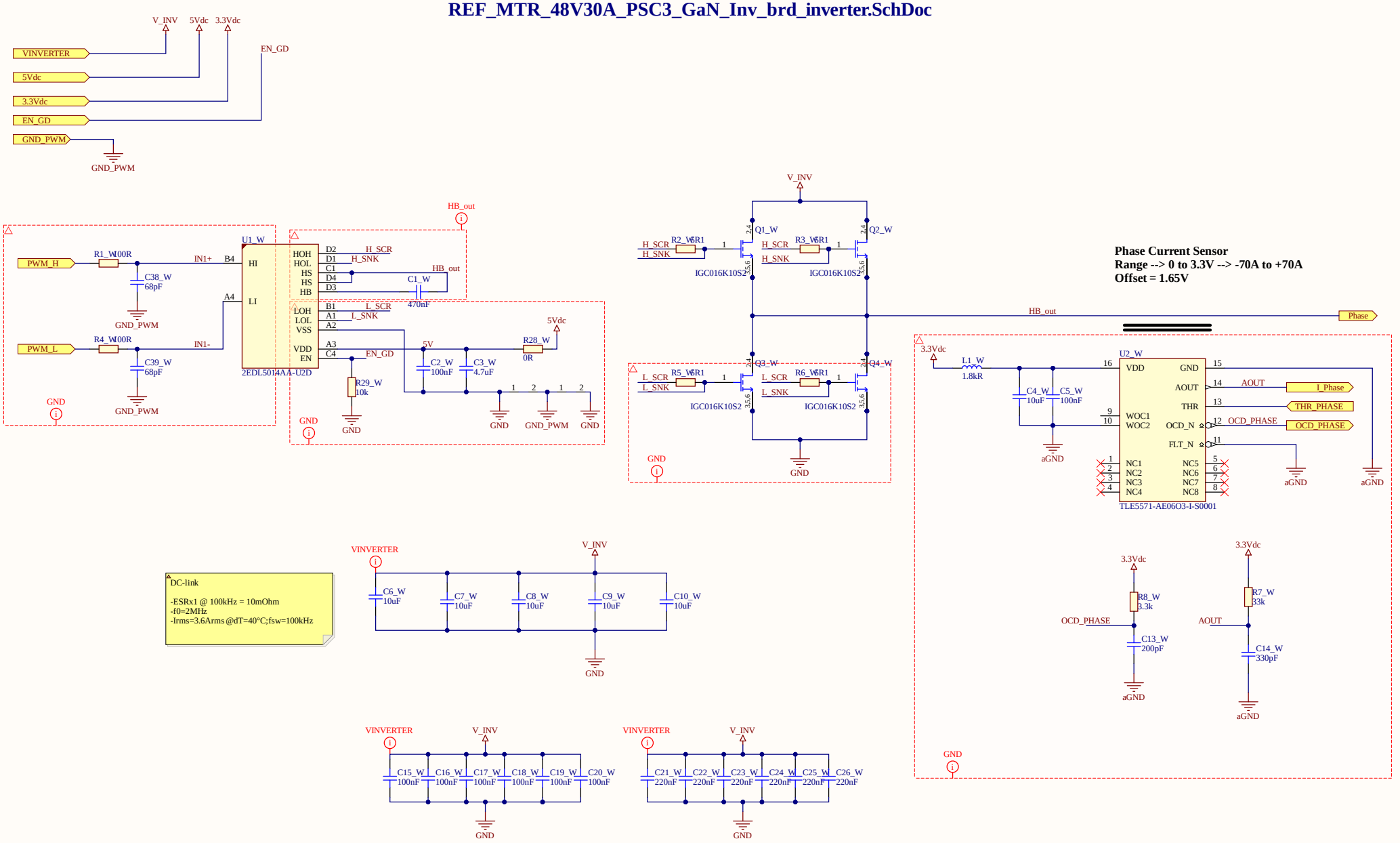
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Phase Current Sensor
Range --> 0 to 3.3V --> -70A to +70A
Offset = 1.65V

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Metal Plate for Thermal dissipation

X18 3.35x1.6x1 Vbatt
X19 3.35x1.6x1 Vbatt
P_IN1 Test Pad 1 Vbatt
P_IN2 Test Pad 1 Vbatt
P_GND Test Pad 1 GND

GND

3.3Vdc L3 1.8kR
C32 10uF C33 100nF aGND
U4 TLE5571-AE06O3-I-S0001
VDD GND AOUT THR WOC1 WOC2 OCD_N FLT_N NC1 NC2 NC3 NC4 NC5 NC6 NC7 NC8
AOUT I_BUS THR_DC OCD_DC
OCD_DC R18 3.3k C34 200pF
AOUT R17 33k C35 330pF

DC BUS Current Sensor
Range --> 0 to 3.3V --> -80A to +80A
Offset = 1.65V

3.3Vdc L2 1.8kR C31 100nF aGND
U3 MCP9700AT-E/LT
VDD GND NC1 NC2 VOUT
TEMP TEMP

Soft start and disconnect circuit

VINVERTER
5Vdc_SEC R19 22R
R20 10k C36 4.7uF
EN_SS R24 47k R25 47k GND
U5 1EDN7126U
VDD IN+ IN- VSS OUT_SRC OUT_SNK BST
7th_FET_SRC 7th_FET_SNK
R23 0R R34 5R1
7th_FET_G
V_INV VINVERTER
Vbatt
7th_FET_G Q5 IGC016K10S2
7th_FET_G Q7 IGC016K10S2
R35 C52
R36 R37 R38 R39 R40 R41 7.5K, 0.75W

Chopper circuit

VINVERTER V_INV
P_CH1 Test Pad
P_CH2 Test Pad
R30 2.49k R31 2.49k R32 2.49k R21 2.49k R22 2.49k
D1 100V
C51 100nF
5Vdc C37 4.7uF GND
PWM_IN R26 47k R27 47k
U6 1EDN7126U
VDD IN+ IN- VSS OUT_SRC OUT_SNK BST
R33 2R
Q6 IGC016K10S2
gDriver
-Isink,source=1,5A

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