3.2mOhm ESR at 500KHz
52% dc bias -> 0.48eff -> 19.2uF

J1
GSB1C4621DS1HR
V_USB
CC1
DP
DN
GND
SHIELD
SHIELD_1
SHIELD_2
SHIELD_3
VBUS_A
CC1
DP1
DN1
SBU1
GND_A
VBUS_B
SBU2
DN2
DP2
CC2
GND_B
B4_A9
B8
B7
B6
B5
B1_A12

DI025N06PT-AQ
Q5
Q1
15V
R37
10k
C3
10uF
R3
10
R7
100
IC1
AP33771CFBZ-13
VOUT
PWR_EN
VCC
ISENP
GND_1
FLIP
LED
V5V
DP
DN
CC1
CC2
ISEL
VSEL
GND_2
1uF
C104
R1
5m
C1
100nF
D3
SMAJ15A
R4
1k
D1
LED
R5
52k 1%
R6
52k 1%
39k 20V
52k 15V
66k 12V
66k 2A
52k 2.5A
39k 3A
26k 3.5A
52.52max

C8
10uF
C10
10uF
IC2
TPP363082-T6TR
VIN
EN
GND
SW
VBST
VFB
L1
15uH
R8
510k
R9
C9
100nF
C11
100nF
C0 > 30uF
BST = 0.1uF
R29
10.2k
R30
1.37k
5V
5.05V
TP7
TestPoint_2Pole
2mOhm ESR at 500KHz
5.182uF with dc bias -> 36.274uF

U8
TLV75733PDBVR
IN
EN
OUT
GND
C142
10uF
C35
100nF
C42
100nF
C63
100nF
3.3V

H1
MountingHole_Pad
H2
MountingHole_Pad
H3
MountingHole_Pad

J2
DIN-7
9VAC_OUT2
9VAC_OUT1
5V

C60
100nF
C46
10uF
C47
100nF
C48
10uF
C49
100nF
C61
100nF
R2
200m
VDDA

TP2
TP1
TestPoint_2Pole
C27
1uF
C30
1uF
U4
FAN3278
PWM_G1
PWM_G2
ENABLE_DRVA
ENABLE_DRVB
INA
INB
ENA
ENB
VDD
OUTA
OUTB
G2
G1

C31
10uF
C33
10uF
Q2
DI006H03SQ
PMOS!
f_sw: 50-100KHz
G3
G4
G1
G2
L2
47uH
L3
47uH
C19
10uF
C25
10uF
T1
Transformer_1P_1S
9VAC1
9VAC2
C23
10uF
TP6
TestPoint_2Pole
R2
20k
R28
20k
D2
SMAJ15CA
9VAC_OUT1
9VAC_OUT2

1uF
C36
1uF
C20
3.3V
GND
D27
SD103AWS
27k
R71
V_REF = 2.048 | 2.5 | 2.9

switched PWM G3/4 and G1/2 around, can be inverted again in software.

TP3
TP4
TestPoint_2Pole
C28
1uF
C29
1uF
U5
FAN3278
PWM_G3
PWM_G4
ENABLE_DRVA
ENABLE_DRVB

100nF
C24
10uF
C2
U1
INA180A2
2.5V @ 5A
CURRENT_COMP_ADC
shunt for peak current mode control
50mV @ 5A
R21
10m
Av=50

205
R26
LM4041 reference
1.225V
U7
LM4041CIM3X-1.2/NOPB
C21
10uF
C22
100nF
470
R25
R22
4k7
9VAC_COMP_ADC
9VAC1
9VAC2
R24
4k7
LM321
U3
470
R27

J3
Conn_ST_STDC14
VCC
RST
JCLK/SWCLK
JTMS/SWDIO
JTDO/SWO
JTDI/NC
JRCLK/NC
GNDDetect
GND
VCP_RX
VCP_TX
NRST
JTCLK
JTMS
JTDO
JTDI

C94
16pF
C97
16pF
Y2
40MHz 10pF
OSC_IN
OSC_OUT

U2
STM32G474CBTx
VBAT
VDD
VDDA
VSS
VSSA
VREF+
PG10
PF0
PF1
PC13
PC14
PC15
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
PWM_G3
PWM_G4
PWM_G1
PWM_G2
JTMS
JTCLK
JTDI
JTDO
VCP_TX
VCP_RX
ENABLE_DRVA
ENABLE_DRVB
9VAC_COMP_ADC
CURRENT_COMP_ADC

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Date:
Rev:
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