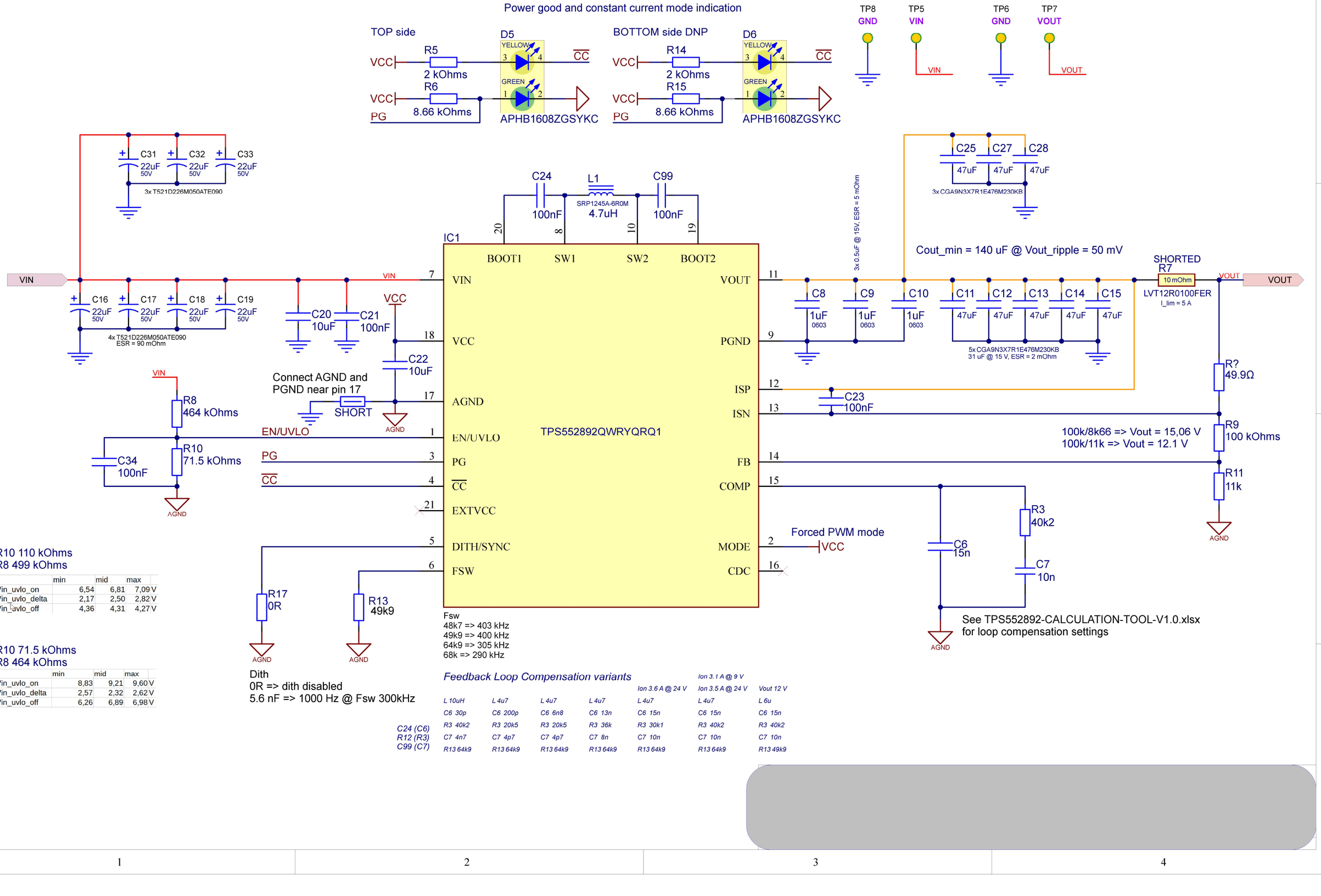
Power good and constant current mode indication
TOP side
D5
YELLOW
GREEN
R5
2 kOhms
R6
8.66 kOhms
VCC
PG
CC
APHB1608ZGSYKC
BOTTOM side DNP
D6
R14
2 kOhms
R15
8.66 kOhms
APHB1608ZGSYKC
TP8 GND
TP5 VIN
TP6 GND
TP7 VOUT
C31 C32 C33
22uF 50V
3x T521D226M050ATE090
C24 100nF
L1 SRP1245A-6R0M 4.7uH
C99 100nF
IC1
BOOT1 SW1 SW2 BOOT2
VIN VCC AGND EN/UVLO PG CC EXTVCC DITH/SYNC FSW
VOUT PGND ISP ISN FB COMP MODE CDC
TPS552892QWRYQRQ1
3x 0.5uF @ 15V, ESR = 5 mOhm
C25 C27 C28
47uF
3x CGA9N3X7R1E476M230KB
Cout_min = 140 uF @ Vout_ripple = 50 mV
SHORTED
R7
10 mOhm
LVT12R0100FER
I_lim = 5 A
VOUT
C8 C9 C10
1uF 0603
C11 C12 C13 C14 C15
47uF
5x CGA9N3X7R1E476M230KB
31 uF @ 15 V, ESR = 2 mOhm
C16 C17 C18 C19
22uF 50V
4x T521D226M050ATE090
ESR = 90 mOhm
C20 10uF
C21 100nF
C22 10uF
Connect AGND and
PGND near pin 17
SHORT
R8
464 kOhms
R10
71.5 kOhms
C34
100nF
C23
100nF
R?
49.9Ω
R9
100 kOhms
R11
11k
100k/8k66 => Vout = 15,06 V
100k/11k => Vout = 12.1 V
R3
40k2
C6
15n
C7
10n
Forced PWM mode
VCC
See TPS552892-CALCULATION-TOOL-V1.0.xlsx
for loop compensation settings
R17
0R
R13
49k9
Dith
0R => dith disabled
5.6 nF => 1000 Hz @ Fsw 300kHz
Fsw
48k7 => 403 kHz
49k9 => 400 kHz
64k9 => 305 kHz
68k => 290 kHz
R10 110 kOhms
R8 499 kOhms
min mid max
Vin_uvlo_on 6,54 6,81 7,09 V
Vin_uvlo_delta 2,17 2,50 2,82 V
Vin_uvlo_off 4,36 4,31 4,27 V
R10 71.5 kOhms
R8 464 kOhms
min mid max
Vin_uvlo_on 8,83 9,21 9,60 V
Vin_uvlo_delta 2,57 2,32 2,62 V
Vin_uvlo_off 6,26 6,89 6,98 V
Feedback Loop Compensation variants
C24 (C6)
R12 (R3)
C99 (C7)
Iout 3.6 A @ 24 V
Iout 3.1 A @ 9 V
Iout 3.5 A @ 24 V
Vout 12 V
L 10uH L 4u7 L 4u7 L 4u7 L 4u7 L 4u7 L 6u
C6 30p C6 200p C6 6n8 C6 13n C6 15n C6 15n C6 15n
R3 40k2 R3 20k5 R3 20k5 R3 36k R3 30k1 R3 40k2 R3 40k2
C7 4n7 C7 4p7 C7 4p7 C7 8n C7 10n C7 10n C7 10n
R13 64k9 R13 64k9 R13 64k9 R13 64k9 R13 64k9 R13 64k9 R13 49k9