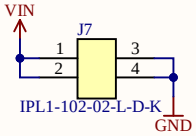
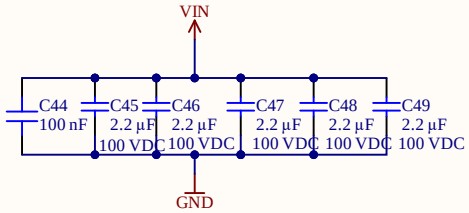
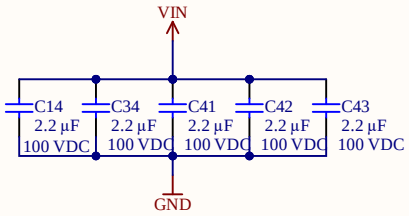
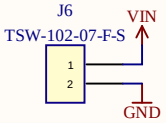
VIN -> 7V to 65V

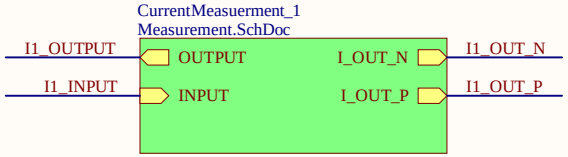


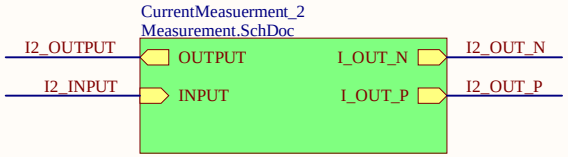


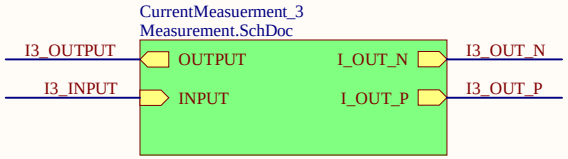


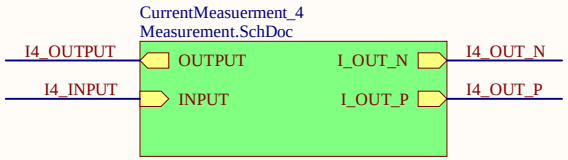
Alternative

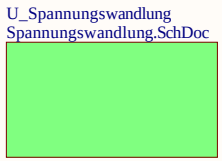


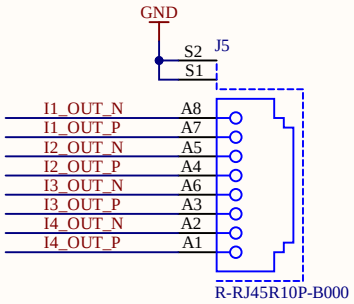








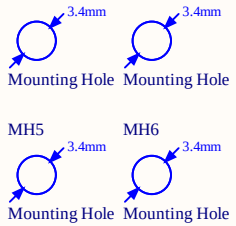




Serial1
Serial
Serialnumber 6.3 x 6.3 mm

INFO1
Project
ProjectRevision
AuthorParam
ProjectDate
Design Information

LOGO1
UltraZohm
UZ Logo



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$$R_{FBT}[\text{k}\Omega] = R_{FBB}[\text{k}\Omega] \times \left(\frac{V_{OUT}[\text{V}]}{1\,\text{V}} - 1\right)$$

VIN
L1
600 Ohm
C2 2.2 µF 100 VDC
C3 2.2 µF 100 VDC
C4 2.2 µF 100 VDC
C5 100 nF 100 VDC
R1 10k
R2 100k
C1 1 µF
R3 0R
R4 0R
R38 10k
+6.5V
PGOOD
U1
TPSM365R6
VIN
VCC
EN
PGOOD
RT
BOOT
SW
SW
VOUT
FB
GND
VOUT = +6.1V / 600 mA
R5 51k
R6 10k
C6 10 µF
C7 10 µF
C39 10 µF
C40 10 µF
6.5V

Note: Undervoltage Lockout is set via R1 and R2. Not configured atm.

RT to VCC -> fsw = 1MHz

Table 9-5. RT Pin Setting

RT INPUT	SWITCHING FREQUENCY
VCC	1 MHz
GND	2.2 MHz
RT to GND	Adjustable according to Figure 9-9
Float (not recommended)	No switching

VCC+ GND +6.5V

U3
TPS7A4700RGWR
IN_2 NC_2 NC_3 NC_4 OUT_2 EP
IN_1 NR EN 0P1V 0P2V
OUT_1 NC_1 SENSE/FB 6P4V2 6P4V1
0P4V 0P8V 1P6V GND 3P2V
L13 600 Ohm
C15 47 µF
C19 10 µF
C26 10 µF
C30 1 µF
R30 0R
R31 0R
R32 0R
R33 0R
R34 0R
R35 0R
R36 0R
R37 0R
C8 10 µF
C9 10 µF
C10 10 µF
C35 10 µF
C36 10 µF
Vin_LDO
VCC+ = +5.10V / 1A

7.5.1 ANY-OUT Programmable Output Voltage

Both devices can be used in ANY-OUT mode. For ANY-OUT operation, the TPS7A4700 and TPS7A4701 do not use external resistors to set the output voltage, but use device pins 4, 5, 6, 8, 9, 10, 11, and 12 to program the regulated output voltage. Each pin is either connected to ground (active) or is left open (floating). The ANY-OUT programming is set by Equation 2 as the sum of the internal reference voltage (V_{REF} = 1.4 V) plus the accumulated sum of the respective voltages assigned to each active pin; that is, 100 mV (pin 12), 200 mV (pin 11), 400 mV (pin 10), 800 mV (pin 9), 1.6 V (pin 8), 3.2 V (pin 6), 6.4 V (pin 5), or 6.4 V (pin 4). Table 1 summarizes these voltage values associated with each active pin setting for reference. By leaving all program pins open, or floating, the output is thereby programmed to the minimum possible output voltage equal to $V_{(REF)}$.

$$V_{OUT} = V_{REF} + (\Sigma \text{ ANY-OUT Pins to Ground}) \quad (2)$$

Table 1. ANY-OUT Programmable Output Voltage

ANY-OUT PROGRAM PINS (Active Low)	ADDITIVE OUTPUT VOLTAGE LEVEL
Pin 4 (6P4V2)	6.4 V
Pin 5 (6P4V1)	6.4 V
Pin 6 (3P2)	3.2 V
Pin 8 (1P6)	1.6 V
Pin 9 (0P8)	800 mV
Pin 10 (0P4)	400 mV
Pin 11 (0P2)	200 mV
Pin 12 (0P1)	100 mV

U2
REF35250QDBVR
GND GND EN VREF NR VIN
2V5
2V5_OCM
L3 600 Ohm
C33 100 nF 100 VDC
C13 1 µF
C12 1 µF
C32 100 nF 100 VDC
C11 1 µF
C31 10 µF

NR -> Noise reduction cap

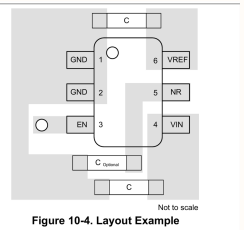

Figure 10-4. Layout Example

VIN
R7 10k
R18 10k
D2
VCC+
R8 10k
R9 10k
D3
6.5V
R10 10k
R17 10k
D4

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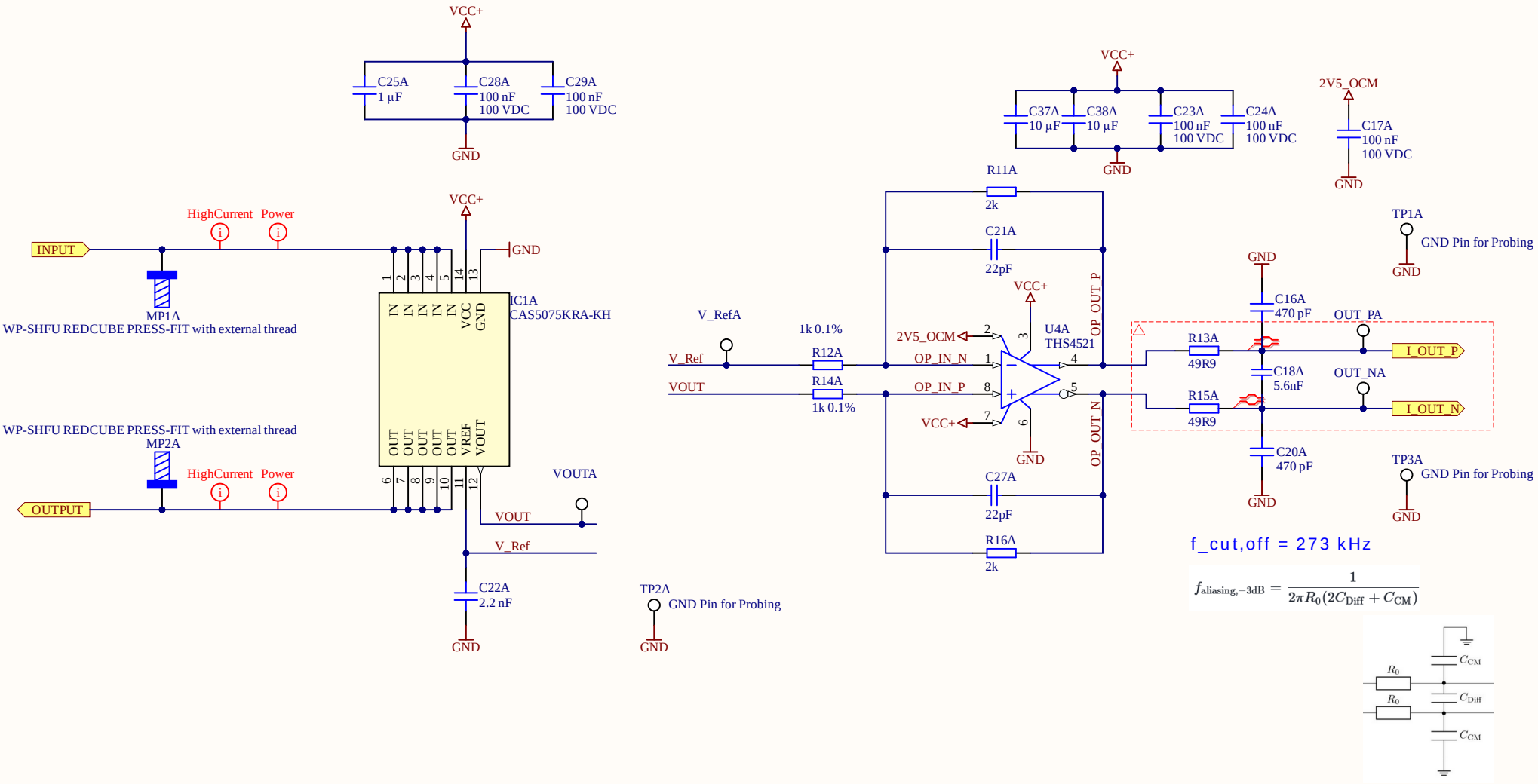

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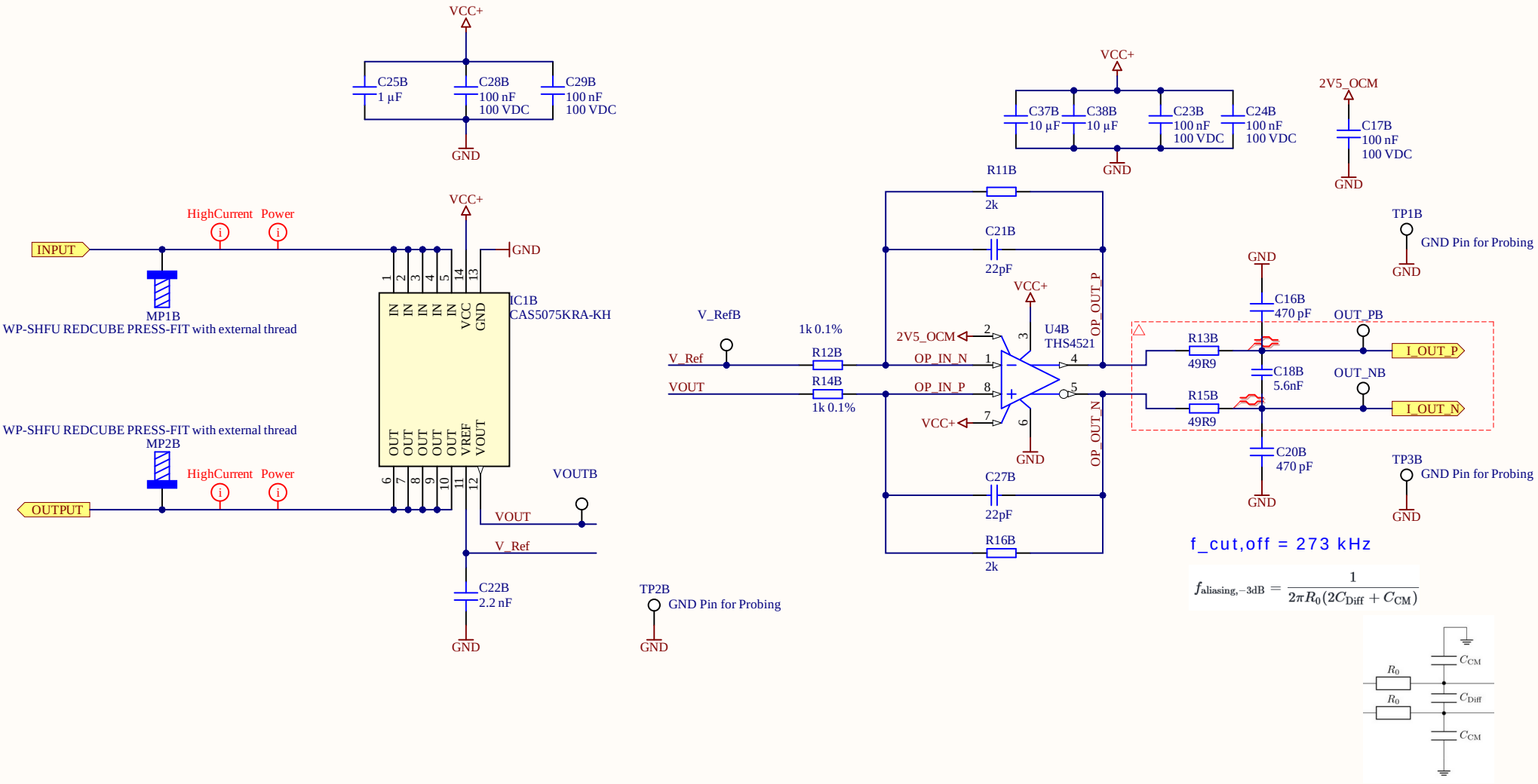

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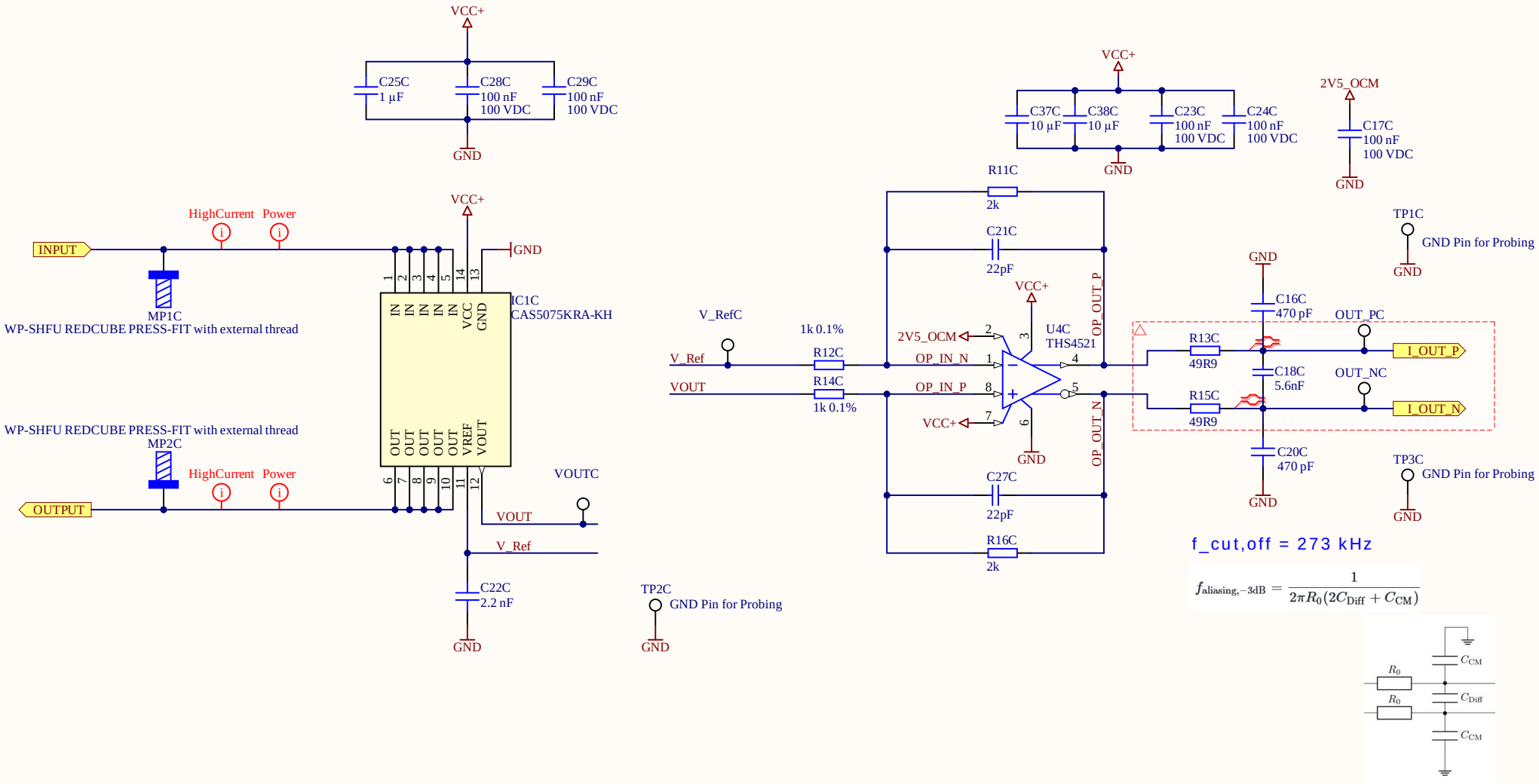

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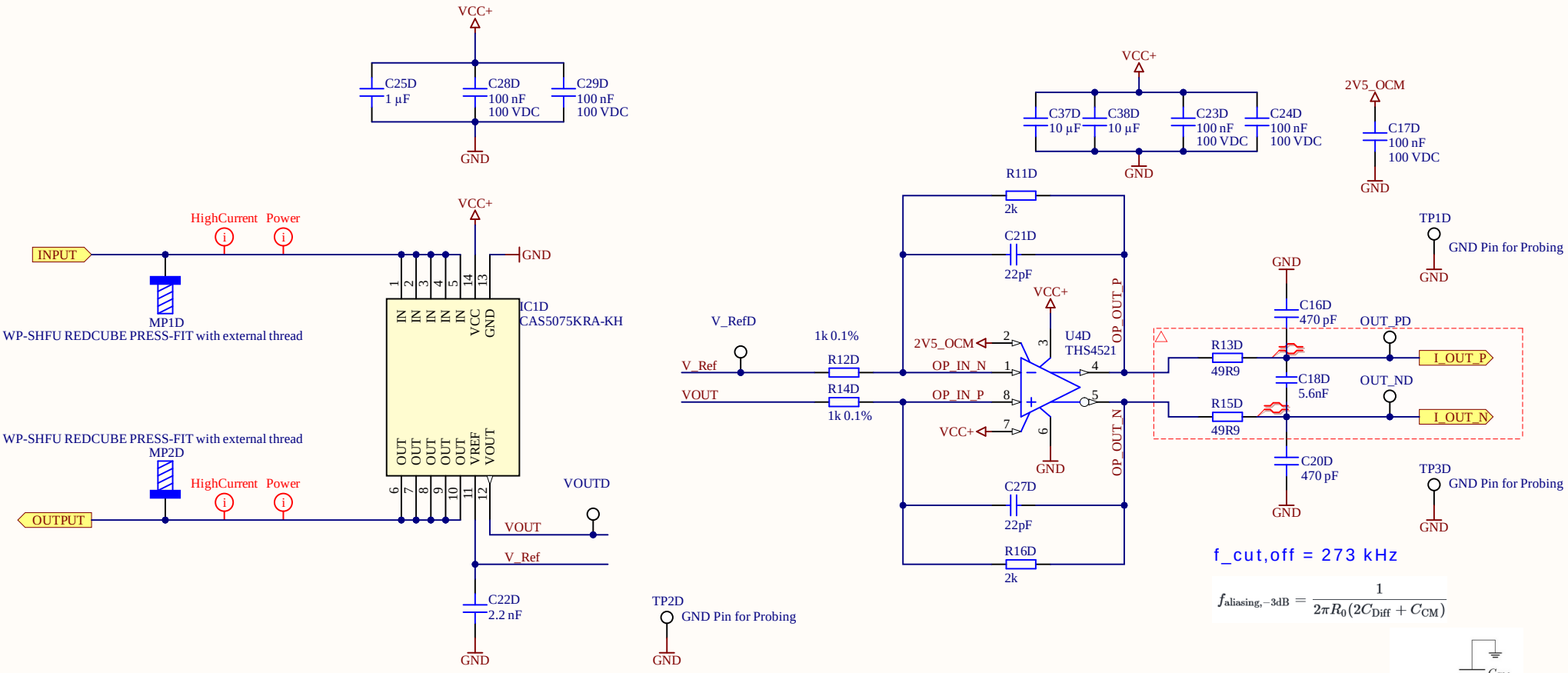

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