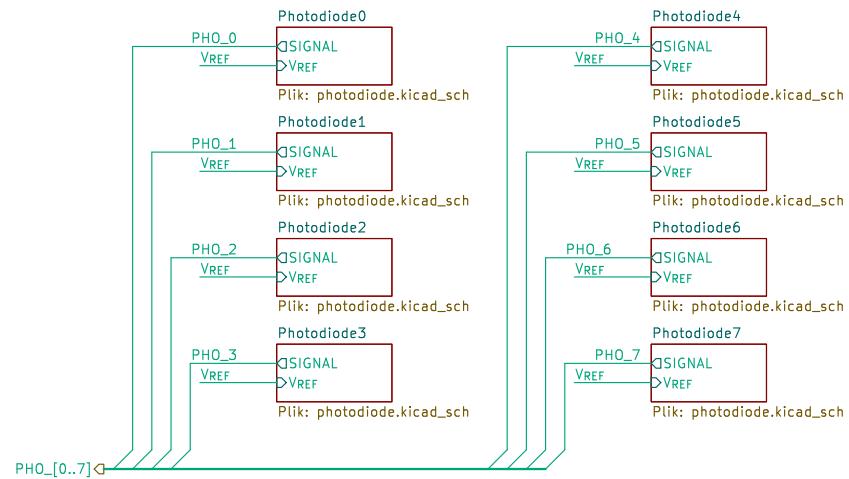


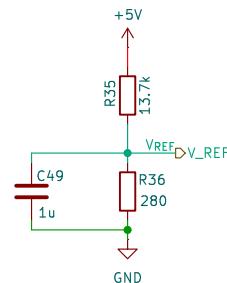
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A



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C

C

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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$

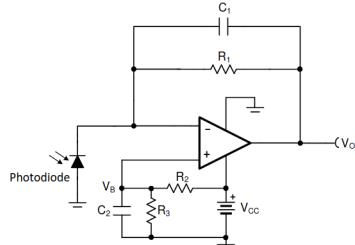
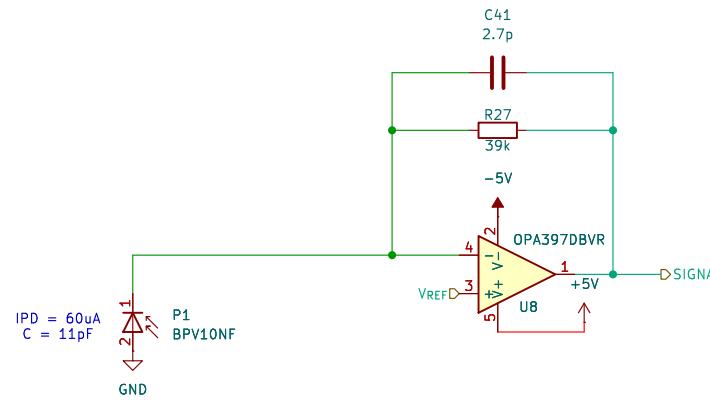


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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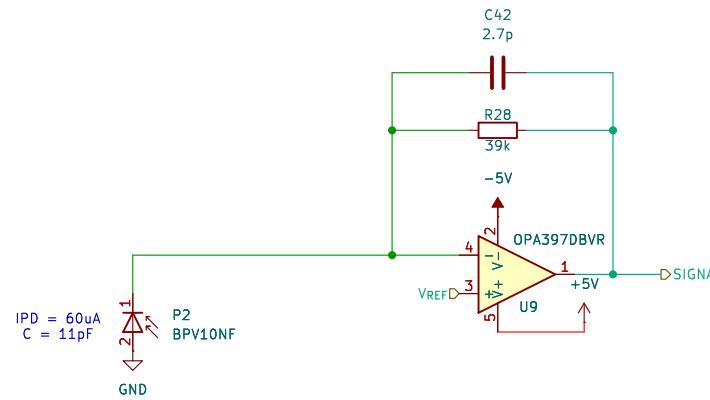
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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$



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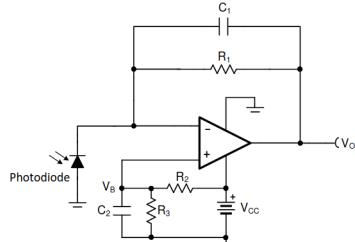


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$

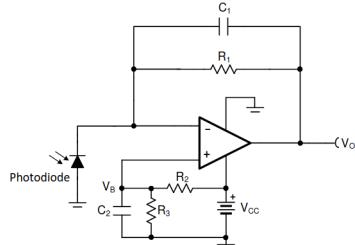
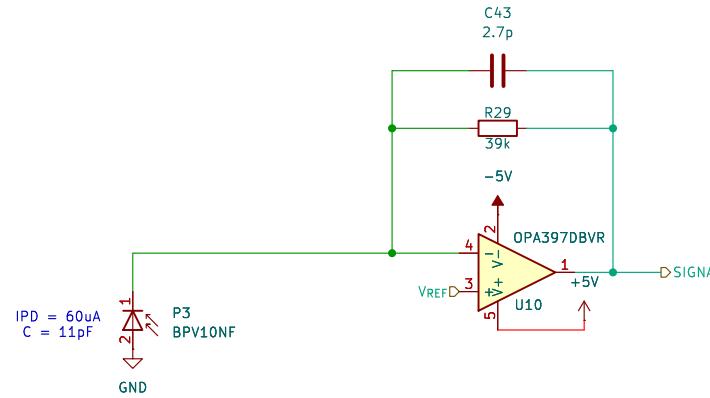


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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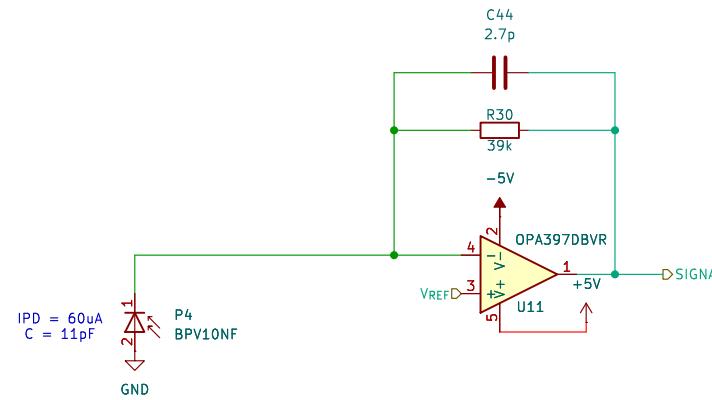
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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$



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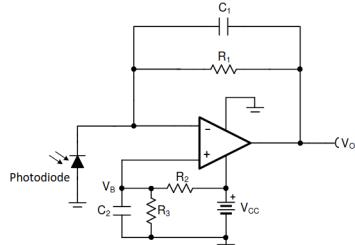


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$

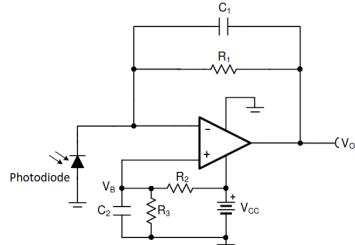
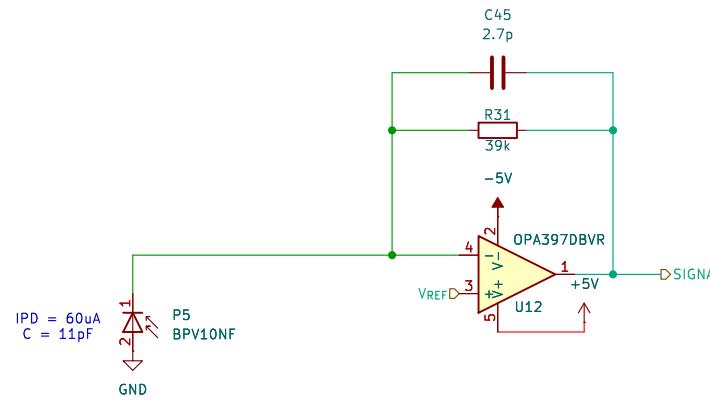


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

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## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$

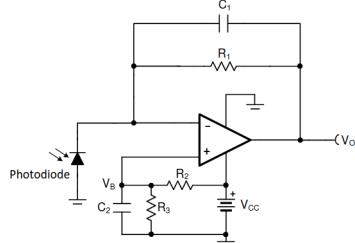
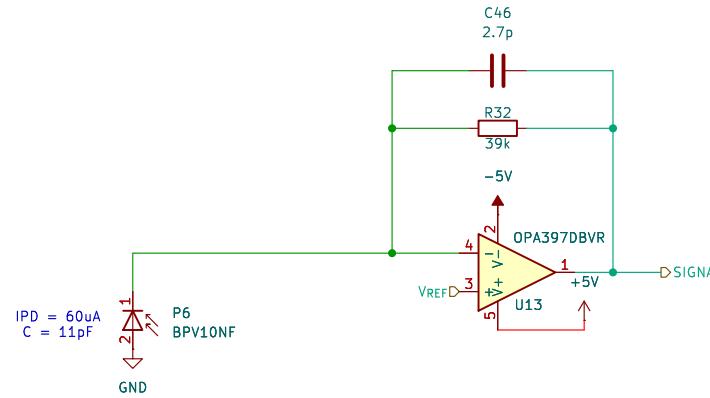


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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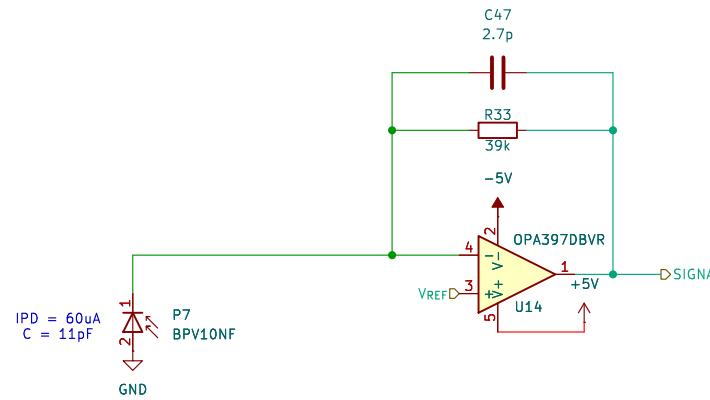
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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$



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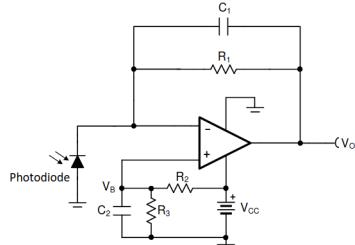


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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Można zastanowić się nad zmianą wartości rezystora R1, ale to po zmianie procka i sprawdzeniu czy będzie działać. Obecnie jest zakres 0.1V–2.4V (chyba)

$$\frac{V_{OUT(MAX)} - V_{OUT(MIN)}}{I_{IN(MAX)}} = R_1 \rightarrow \frac{4.9V - .1V}{90\mu A} = 53333.3\Omega \rightarrow 53.6k\Omega$$

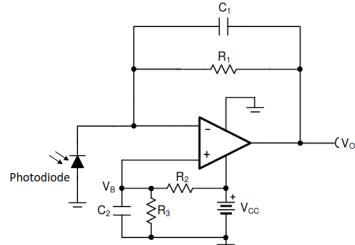
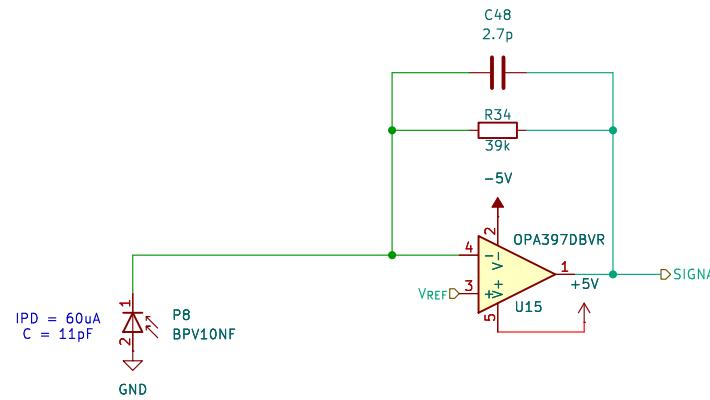


Figure 4: A bias voltage is applied to the op amp's non-inverting input to prevent saturation at the negative power supply

The output transfer function including the bias voltage is:

$$V_{OUT} = i_{PD}R_1 + V_B = i_{PD}R_1 + V_{CC} \frac{R_3}{R_3 + R_2} \quad (2)$$

## KEY OPA128 SPECIFICATIONS

Bias current .....	75fA max
Offset voltage .....	500μV max
Drift .....	5μV/°C max
Noise .....	15nV/√Hz at 10kHz

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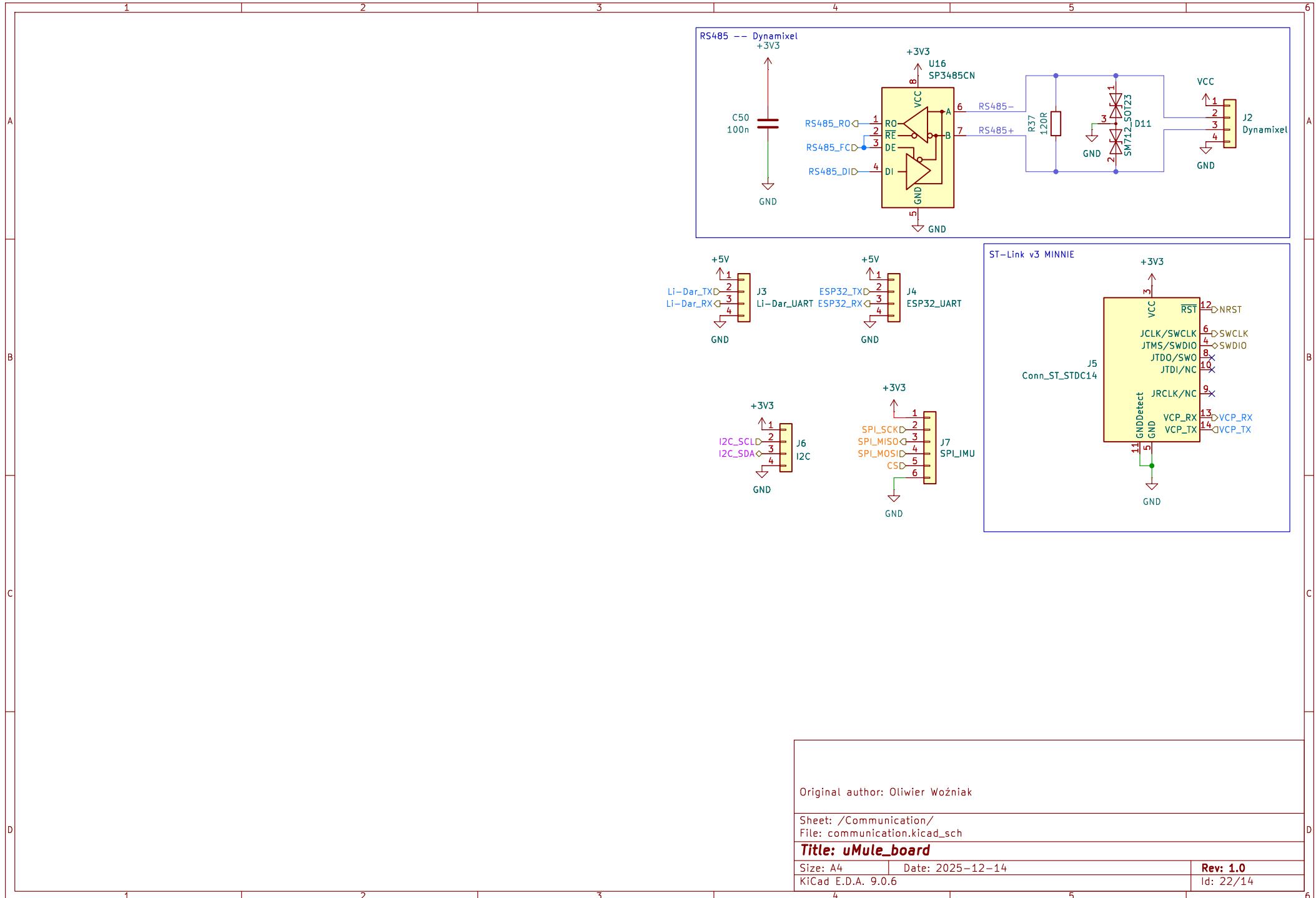
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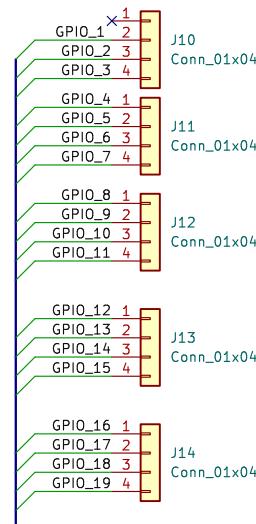
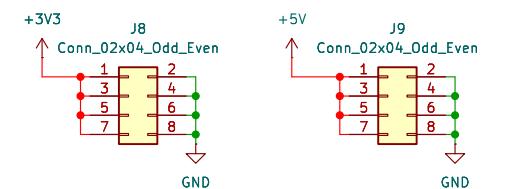
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