

# Photodiode as current source

## Student Group

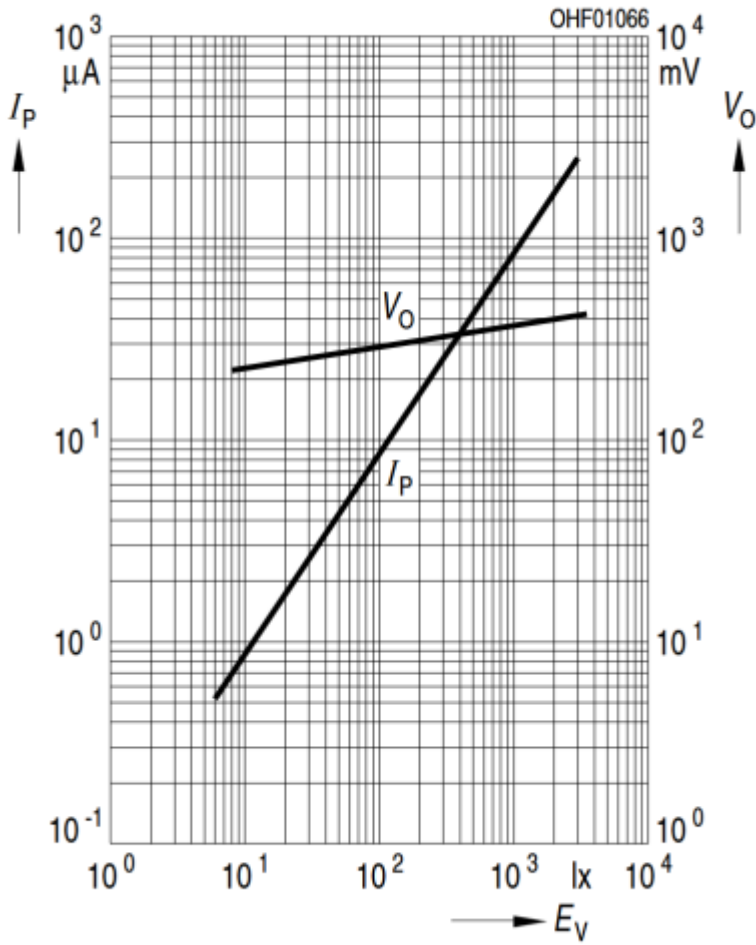
First Name	Surname	Matrikel Nr.

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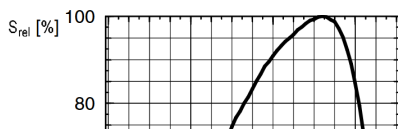
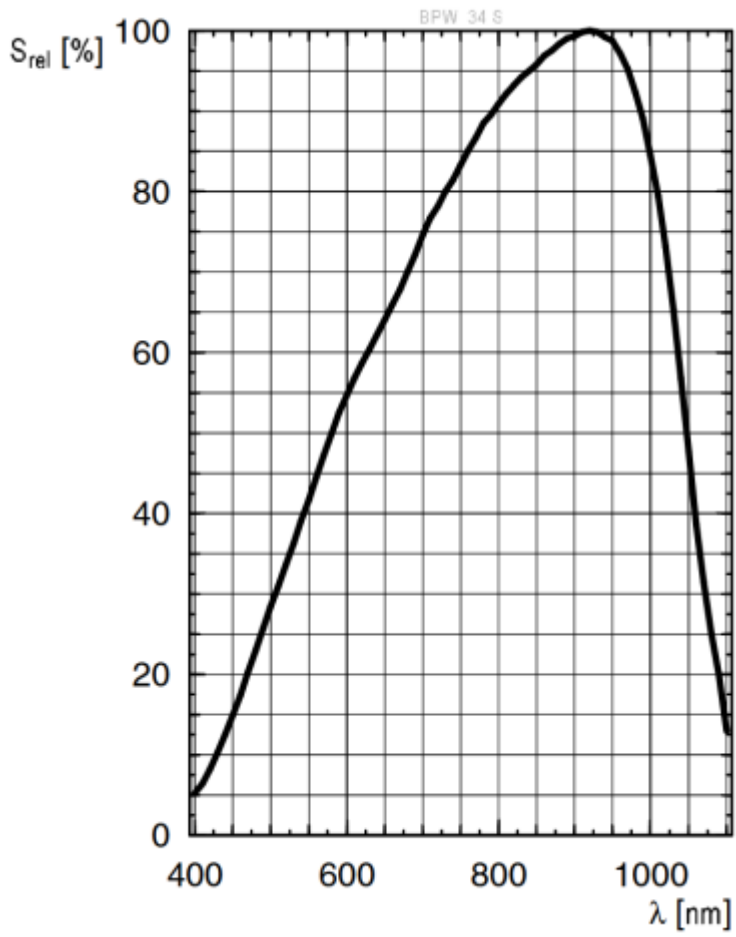
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### Photo Diode as current source

$$I_P (V_R = 5 \text{ V}) / V_O = f(E_V)$$



||



$$I_P (V_R = 5 \text{ V}) / V_O = f(E_\nu)$$

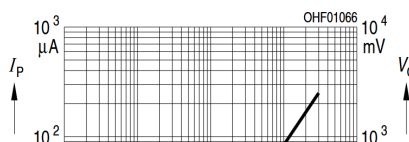


Fig. 3: Inverting Op-Amp: Photo Diode as current source

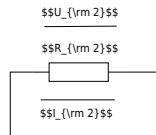


Fig. 4: Inverting Op-Amp: Photo Diode as current source

$$U_{DD} = 10\text{V}, U_{SS} = -10\text{V}$$

Complete the arrows in the schematic of the circuit.  
 Take the values for  $U_1, U_2, U_{OUT}$  from figure ##.  
 Use these values to calculate the sum of the voltages at node  $N_{12}$ .  
 Compare your result by measurement.

$$U_1 =$$

$$U_2 =$$

$$U_{OUT} =$$

$$\text{Calculated } U_{N_{12}} =$$

$$\text{Measured } U_{N_{12}} =$$

What are your results?

$\{\rm \dots\}$

$\{\rm \dots\}$

$\{\rm \dots\}$

What will happen if you short-circuit  $R_2$ ?

Try it and explain your results.

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