

RJEŠENJA MEĐUISPITA IZ ELEKTRONIKE 1

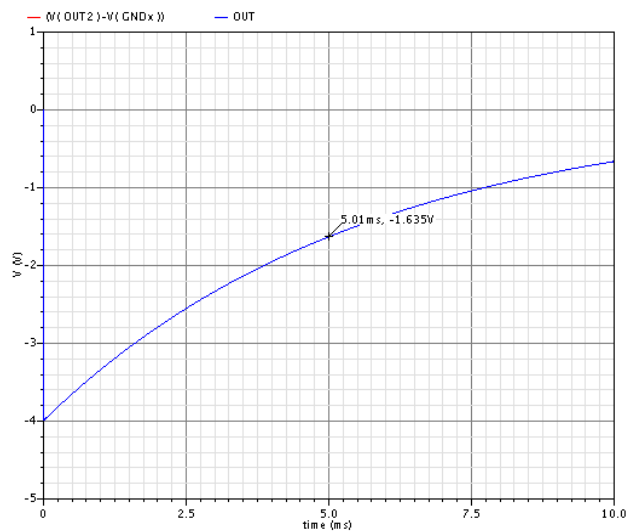
ZADACI

ZADATAK 1.

$$u_{IZ}(0 \text{ ms} < t < \infty \text{ ms}) = u_{IZ}(0 \text{ ms})^+ \cdot e^{-\frac{t}{\tau}}$$

$$u_{IZ}(t = 3 \text{ ms}) = -1,96 \text{ V}$$

$$u_{IZ}(t = 5 \text{ ms}) = -1,64 \text{ V}$$



ZADATAK 2.

$$E_F = E_C - 0,1943 \text{ eV} \quad (2 \text{ boda})$$

$$E_F = E_{Fi} + 0,36 \text{ eV}$$

$$n_{02} = 2,02 \cdot 10^{17} \text{ cm}^{-3} \quad (2 \text{ boda})$$

$$N_{D2} = 1,82 \cdot 10^{17} \text{ cm}^{-3} \quad (2 \text{ boda})$$

ZADATAK 3.

$$n_{0p} = 1051,25 \text{ cm}^{-3}$$

$$D_n = 20,7 \text{ cm}^2/\text{s}$$

$$L_n = 3,22 \cdot 10^{-3} \text{ cm} = 32,2 \text{ } \mu\text{m}$$

$$p_{0n} = 52\,562,5 \text{ cm}^{-3}$$

$$D_p = 7,76 \text{ cm}^2/\text{s}$$

$$L_p = 2,49 \cdot 10^{-3} \text{ cm} = 24,9 \text{ } \mu\text{m}$$

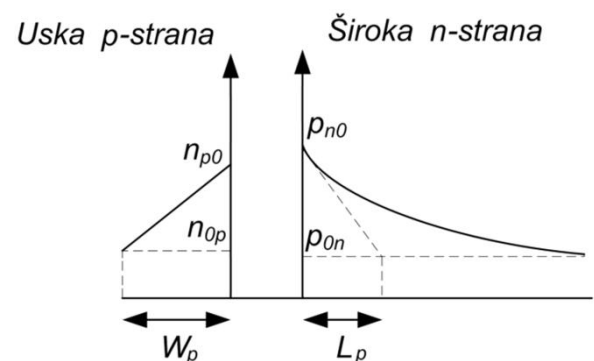
$$p_{n0} = 9,07 \cdot 10^{13} \text{ cm}^{-3}$$

$$n_{p0} = 1,81 \cdot 10^{12} \text{ cm}^{-3}$$

$$I_s = 0,7 \text{ pA}$$

$$I = 1,2 \text{ mA}$$

$$U = U_D + I \cdot R_s = 0,56 \text{ V}$$

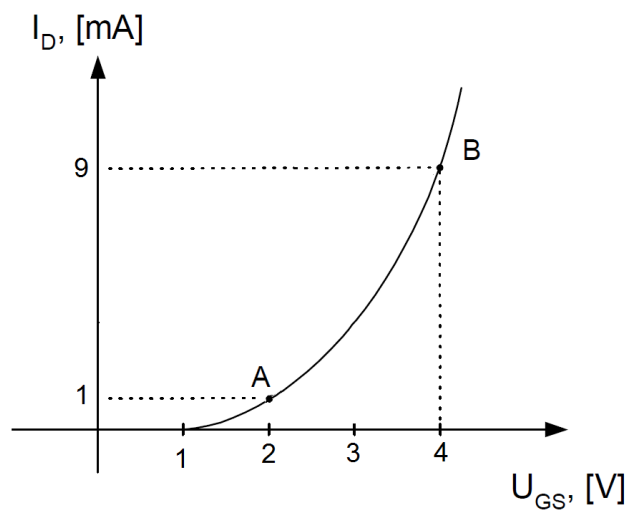


ZADATAK 4.

n -kanalni MOSFET obogaćenog tipa

$$U_{GS0} = 1 \text{ V}$$

$$t_{ox} = 12,1 \text{ nm}$$



PITANJA

| | A | B | C | D |
|----------|----------|----------|----------|----------|
| 1 | D | B | E | C |
| 2 | A | D | B | E |
| 3 | B | E | C | A |
| 4 | A | D | B | E |
| 5 | A | D | B | E |
| 6 | C | D | B | B |
| 7 | C | A | D | B |