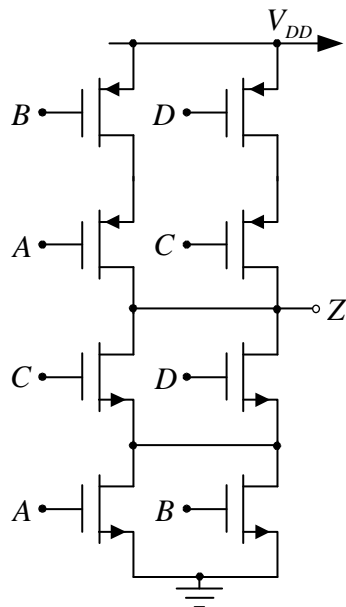


## REŠENJA ZADATAKA

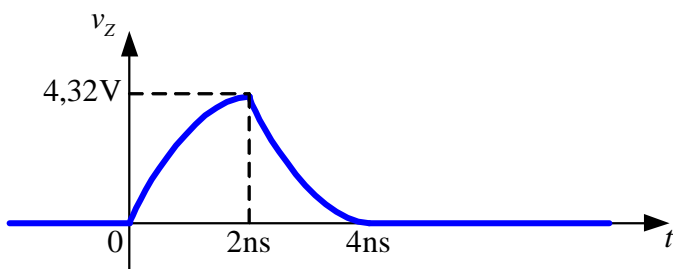
### 1. KOLOKVIJUM

2. a)



b)

$$v_Z(t) = \begin{cases} 0, & t < 0 \\ 5V \cdot (1 - e^{-10^9 t}), & 0 \leq t \leq 2\text{ns} \\ 4,32V \cdot e^{-2,67 \cdot 10^9 \cdot (t - 2\text{ns})}, & 2\text{ns} \leq t \leq 4\text{ns} \\ 0,021V \cdot e^{-2 \cdot 10^9 \cdot (t - 4\text{ns})}, & t \geq 4\text{ns} \end{cases}$$



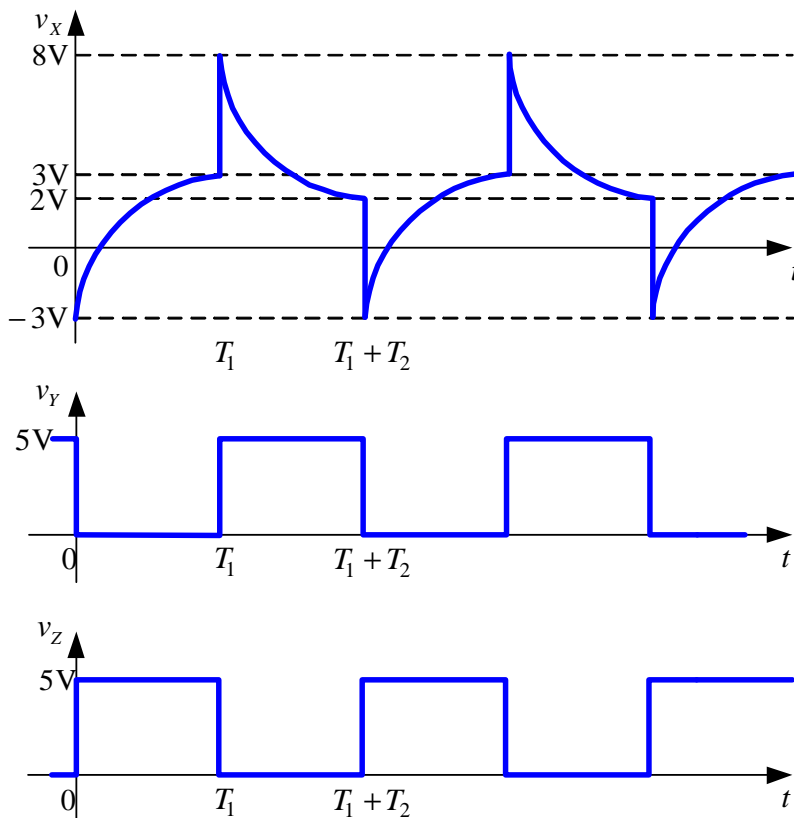
2. KOLOKVIJUM

2.  $v_x(t) = 5V - 8V \cdot e^{-10000t}$ , za  $0 < t < T_1$

$v_x(t) = 8V \cdot e^{-10000(t-T_1)}$ , za  $T_1 < t < T_1 + T_2$

$T_1 = T_2 = 138,63\mu s$

$f = \frac{1}{T_1 + T_2} = 3606,7\text{Hz}$



3. KOLOKVIJUM

2. a)  $v_{IZ} = -\frac{V_{REF}}{48R} R_f (8Q_3 + 4Q_2 + 2Q_1 + Q_0)$ .

b)  $R_f = 2,4k\Omega$ .

S obzirom da je D/A konvertor unipolaran i da je  $v_{IZ} \geq 0$ , na osnovu rezultata iz tačke a) sledi da mora biti  $V_{REF} < 0$ .