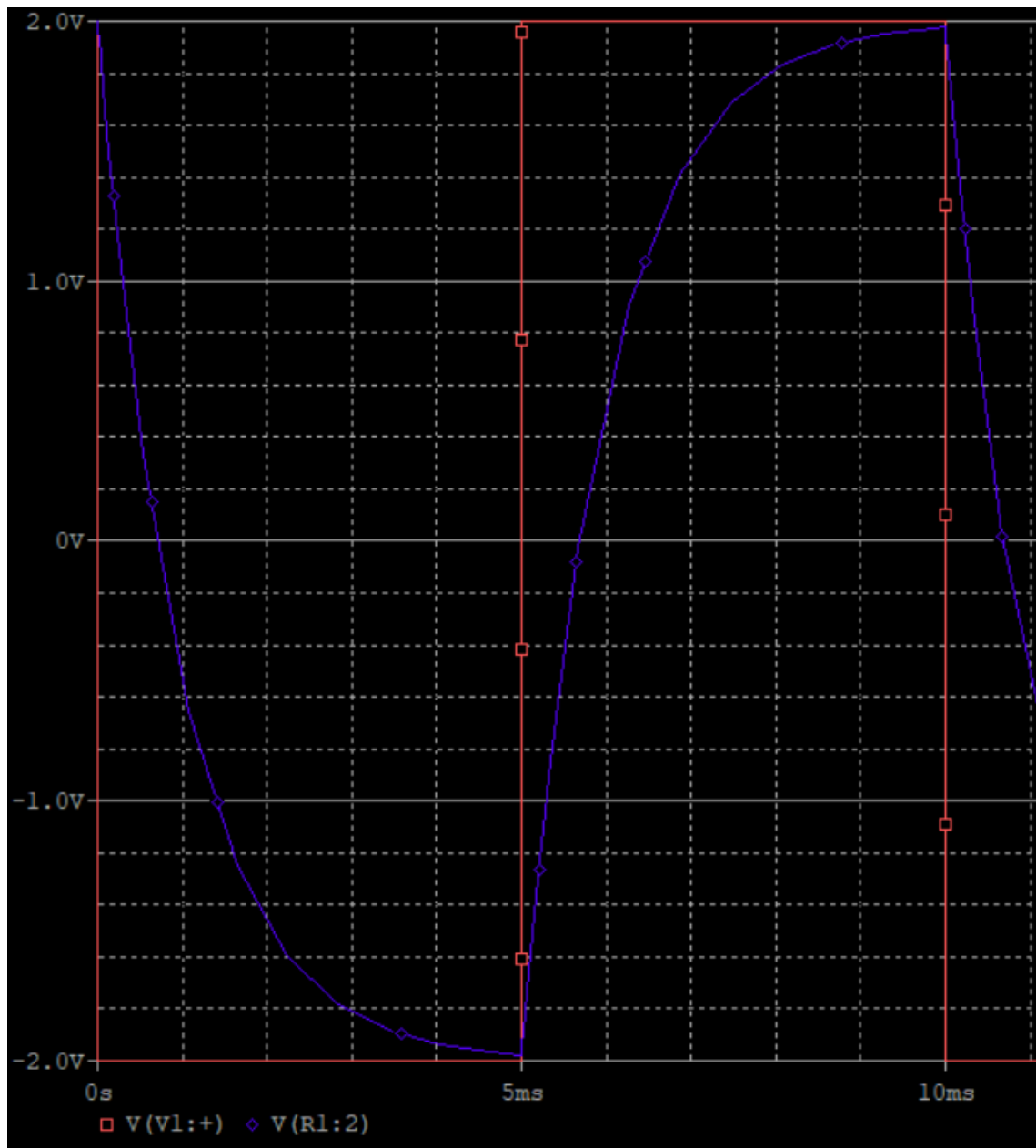


(1.1)

$$\begin{aligned} \text{مذاکره } V_0(x) \approx 1/448 \text{ V} \xrightarrow{V=4} V_0(x) \approx 0.1/448 \text{ V} \\ -1/448 = -1/448 \end{aligned}$$



Probe Cursor

A1 = 1.0077m, -532.368m

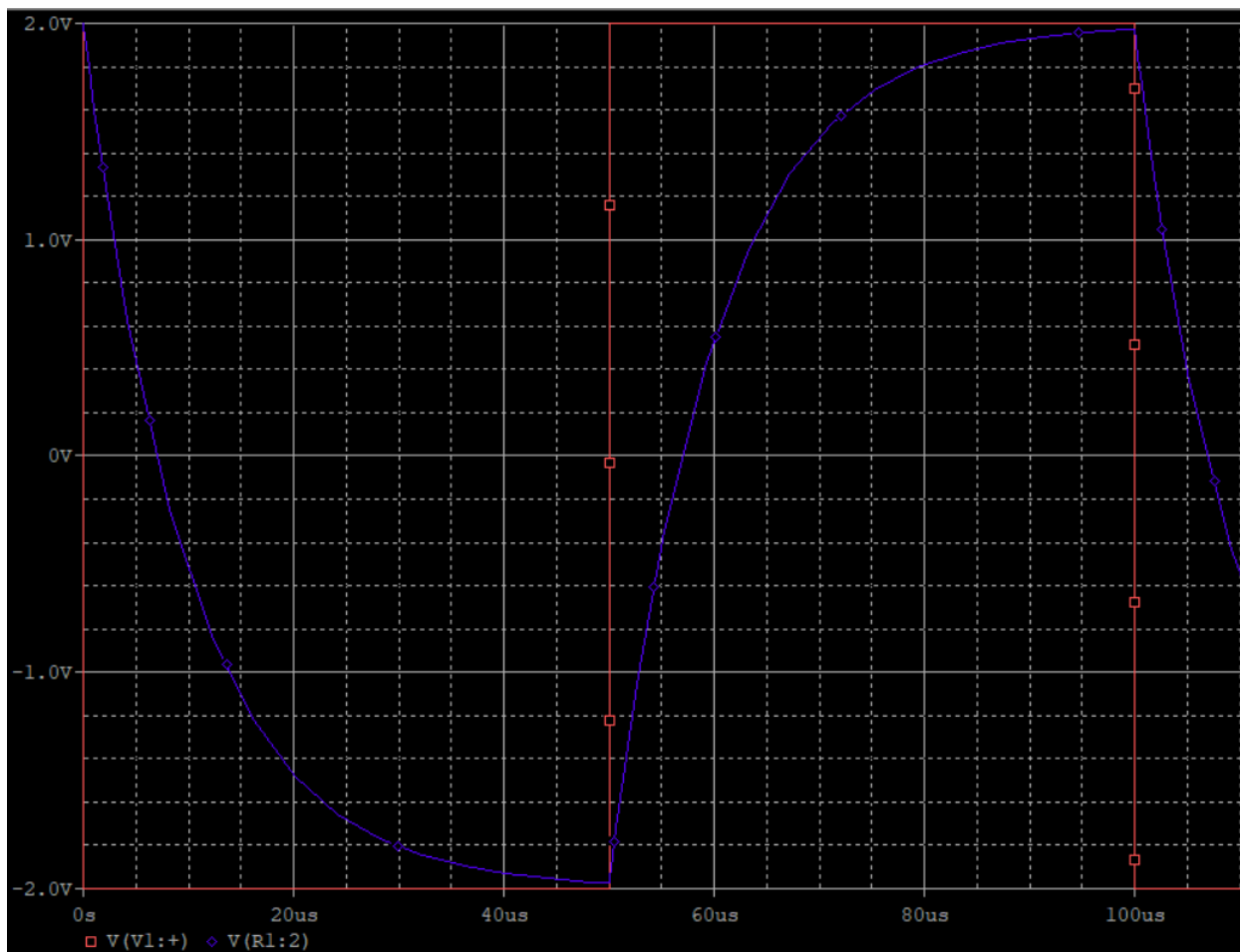
A2 = 10.000p, 1.9600

dif= 1.0077m, -2.4924

$\tau \approx 1.0077 \text{ ms}$ ← زمان ثابت، ولت اولیه 1.96V است
 $\tau = 1.0 \times 10^{-3} \times 1.0 \times 10^{-9} = 1 \text{ ms}$ ← $\tau = RC$ و از طریق فرکانس
 محاسبه می شود.

(1.2

$$R = \frac{\tau}{C} \Rightarrow \tau = RC \text{ فرکانس}$$



Probe Cursor

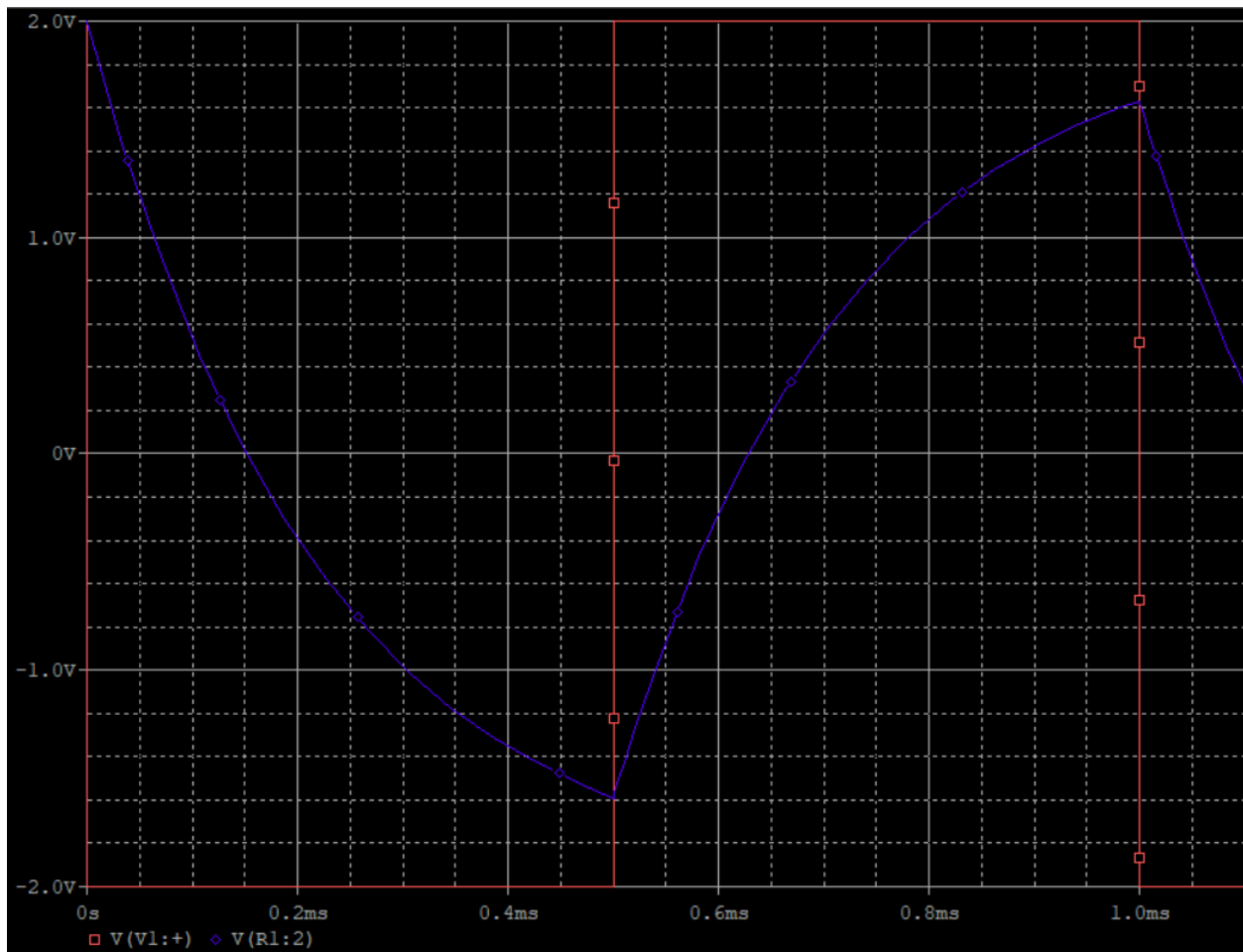
A1 = 10.139u, -532.251m

A2 = 0.000, 2.0000

dif= 10.139u, -2.5323

$$\left(\frac{1.0149 \mu s}{1} \right) = R = \frac{1.0149 \mu s}{1.0 \text{ ns}} = \tau = 1.0149 \mu s$$

فرکانس = $\frac{1}{\tau} = \frac{1}{1.0149 \mu s} \approx 98.46 \text{ kHz}$



Probe Cursor

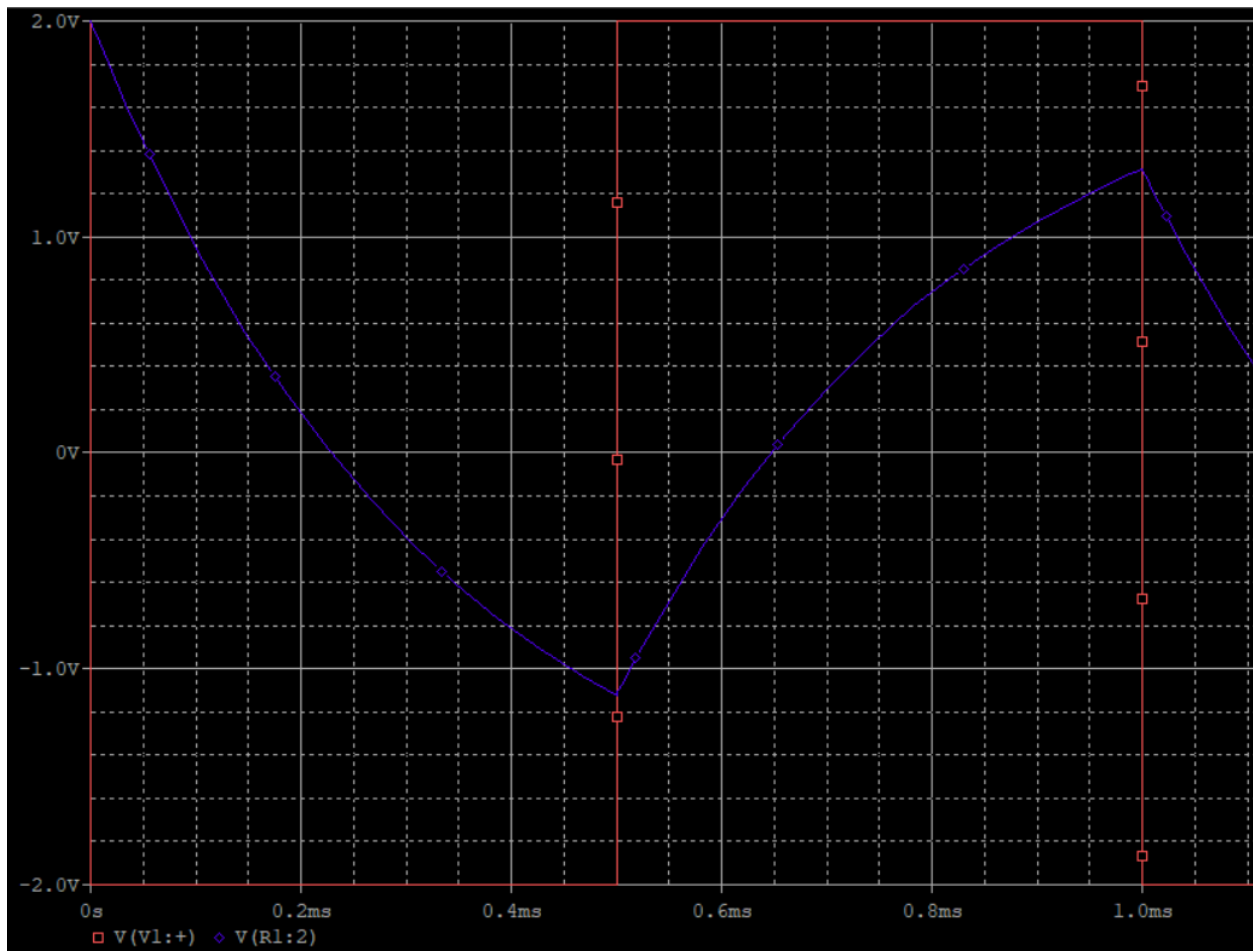
A1 = 220.630u, -532.565m

A2 = 10.000p, 1.9600

dif= 220.630u, -2.4926

$$R = \frac{V_C / I_C \cdot N_s}{10 \text{ ns}} = \boxed{22.44 \Omega} \quad \leftarrow \tau = V_C / I_C \cdot N_s$$

1ms \rightarrow Zeitgesch.

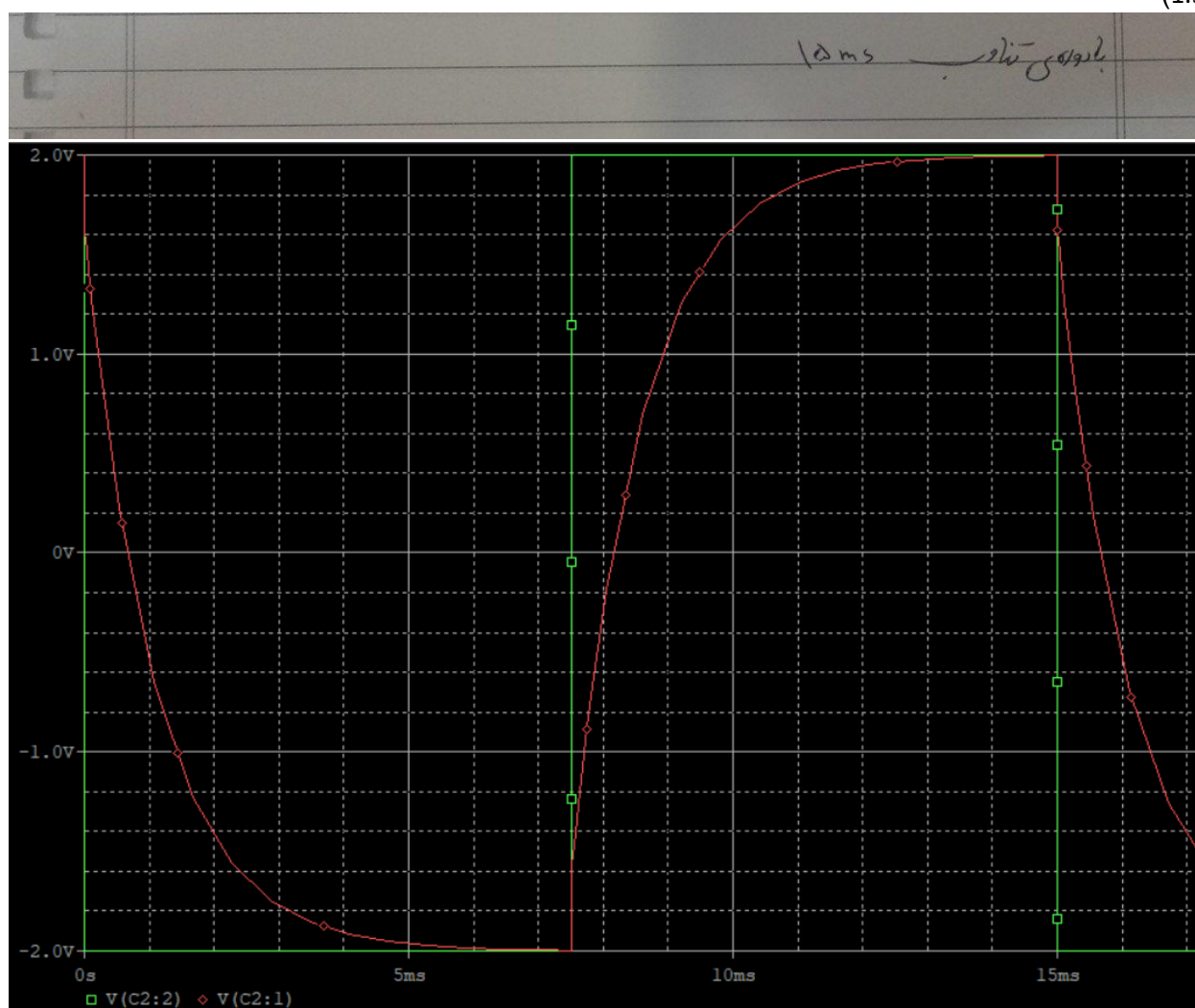


Probe Cursor
A1 = 331.166u, -532.646m
A2 = 0.000, 2.0000
dif= 331.166u, -2.5327

$$R = \frac{V_1 / I_1}{I_1} = \frac{V_1}{I_1^2} \Rightarrow \tau = V_1 / I_1^2 \text{ ms}$$

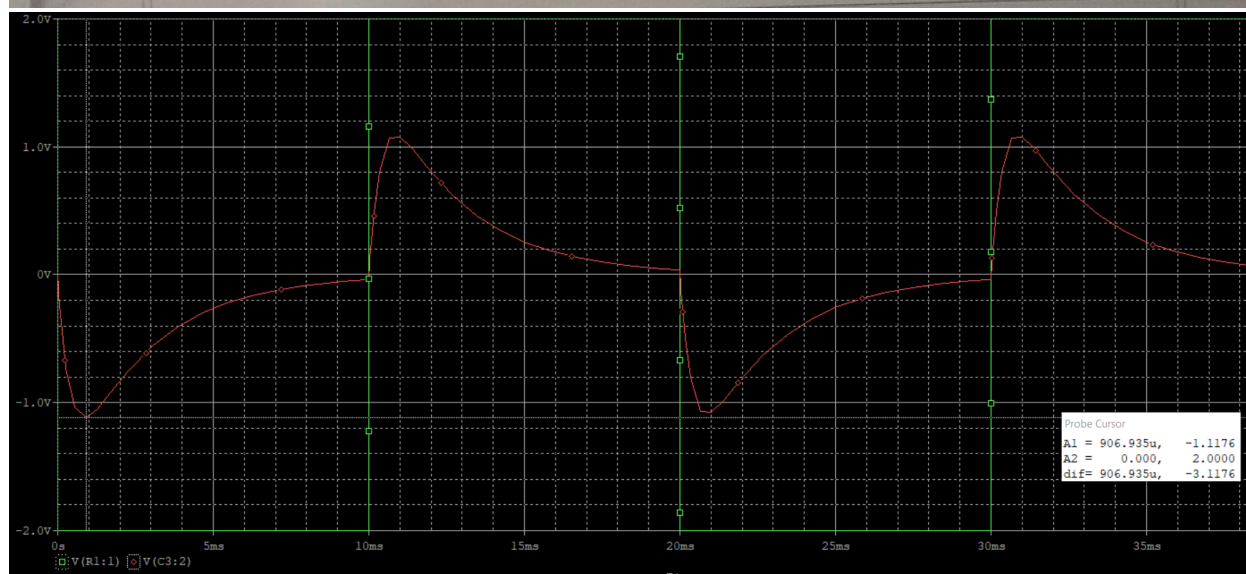
1ms

(1.3

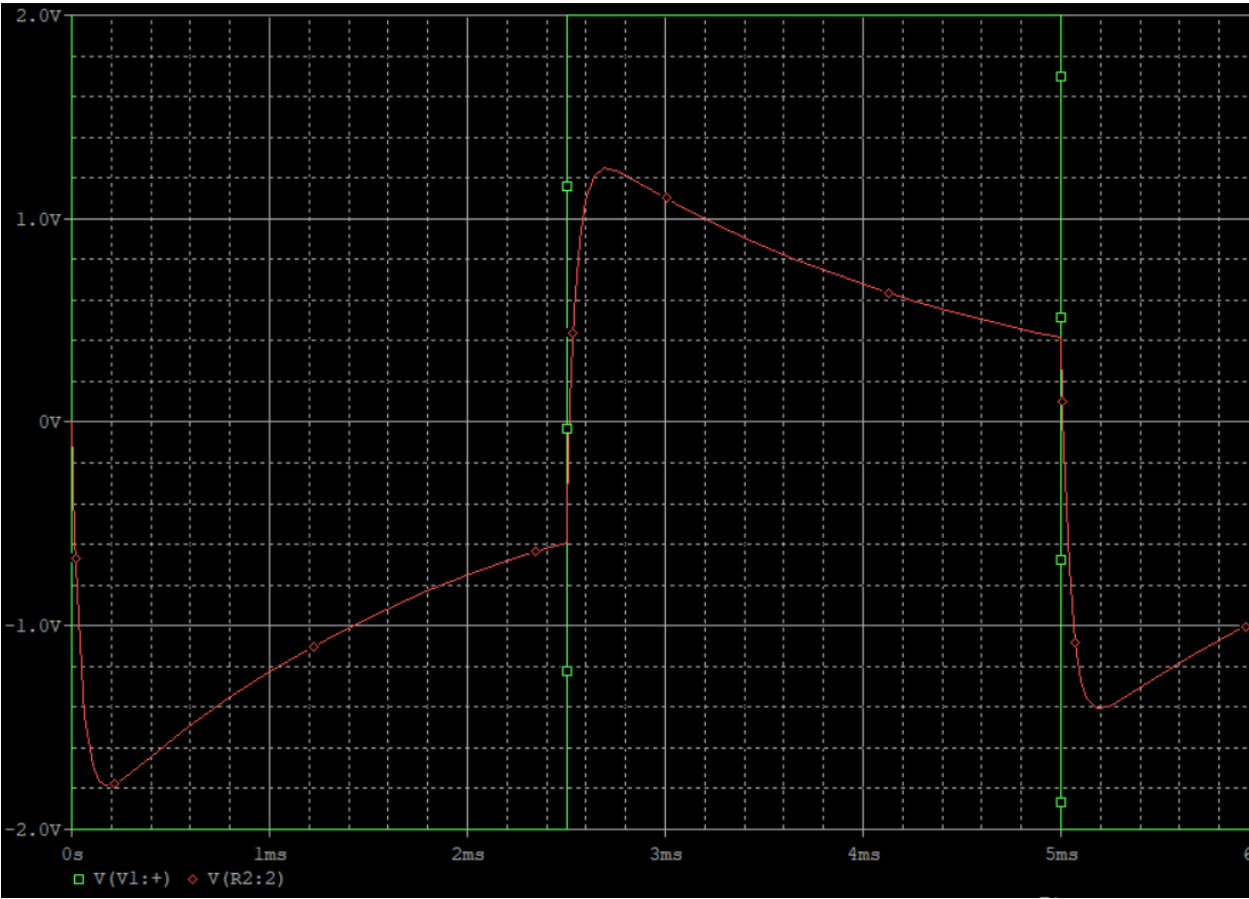


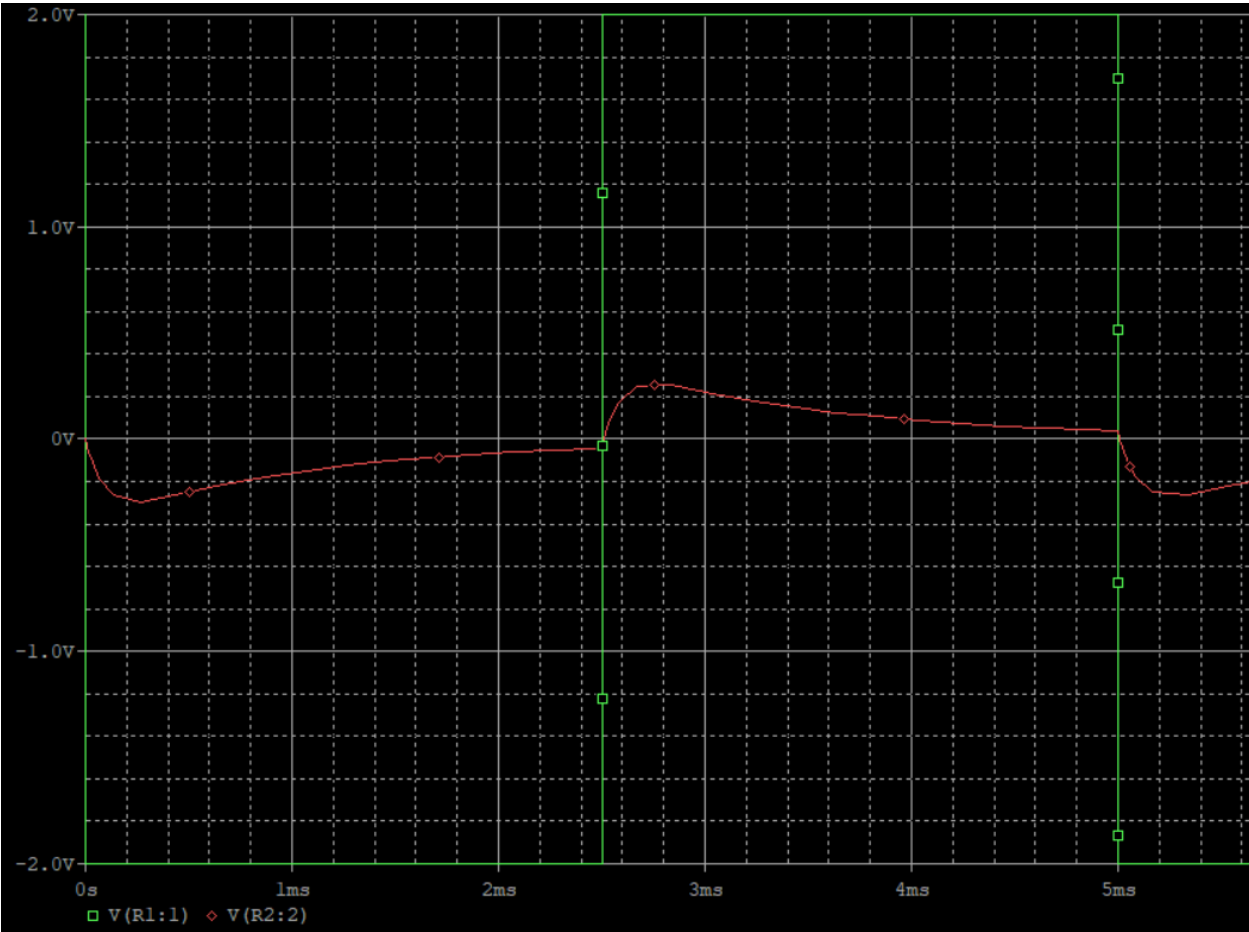
(2.1

$V_0 = 1.1 \text{ V}$ $V_{0\max} = 1.4 \text{ V}$ $t = 0.14 \text{ ms}$ $t = 0.14 \text{ ms}$ $t = 0.14 \text{ ms}$



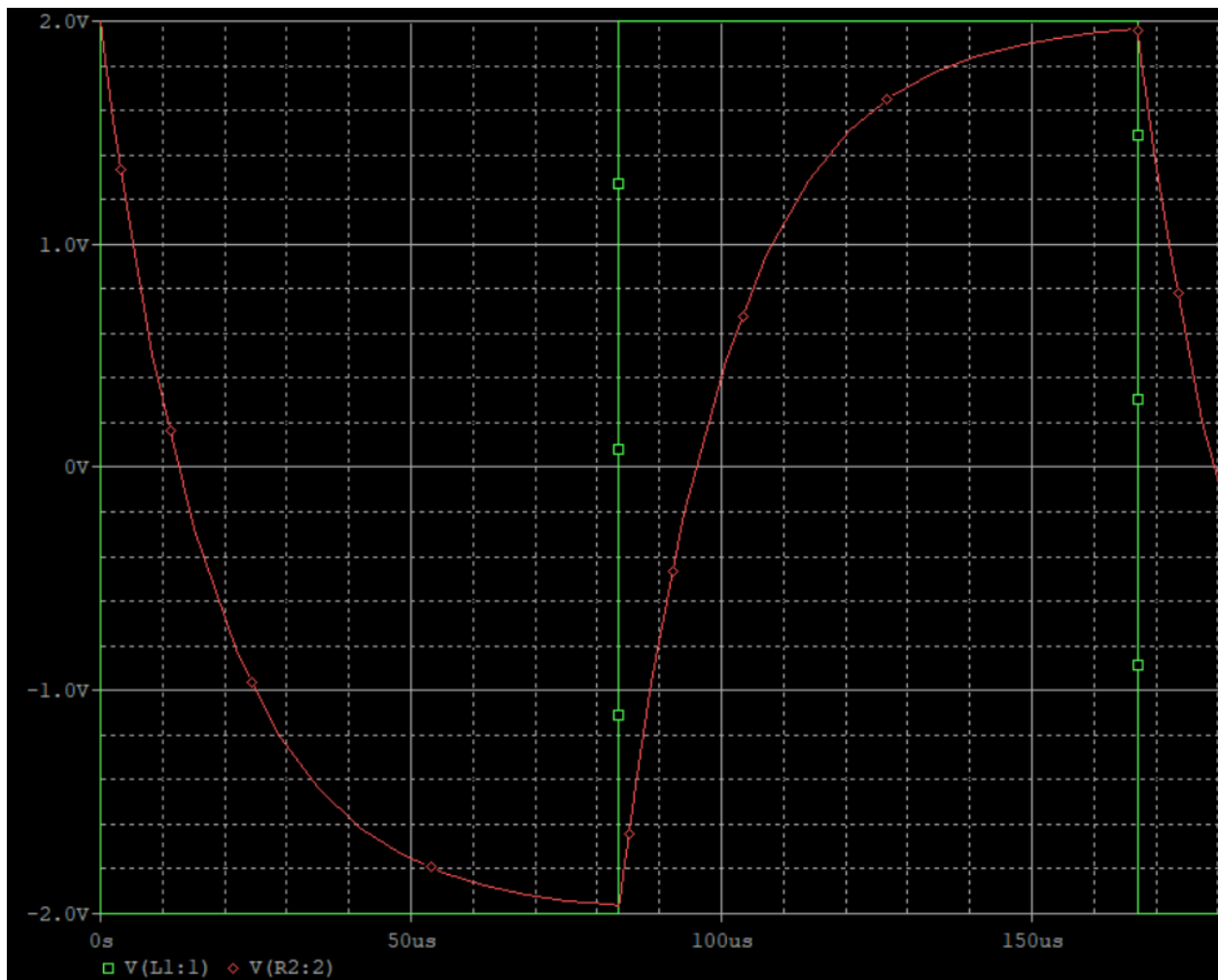
$V_{0\max} = 1.1 \text{ V}$ $t = 0.14 \text{ ms}$





(3.1

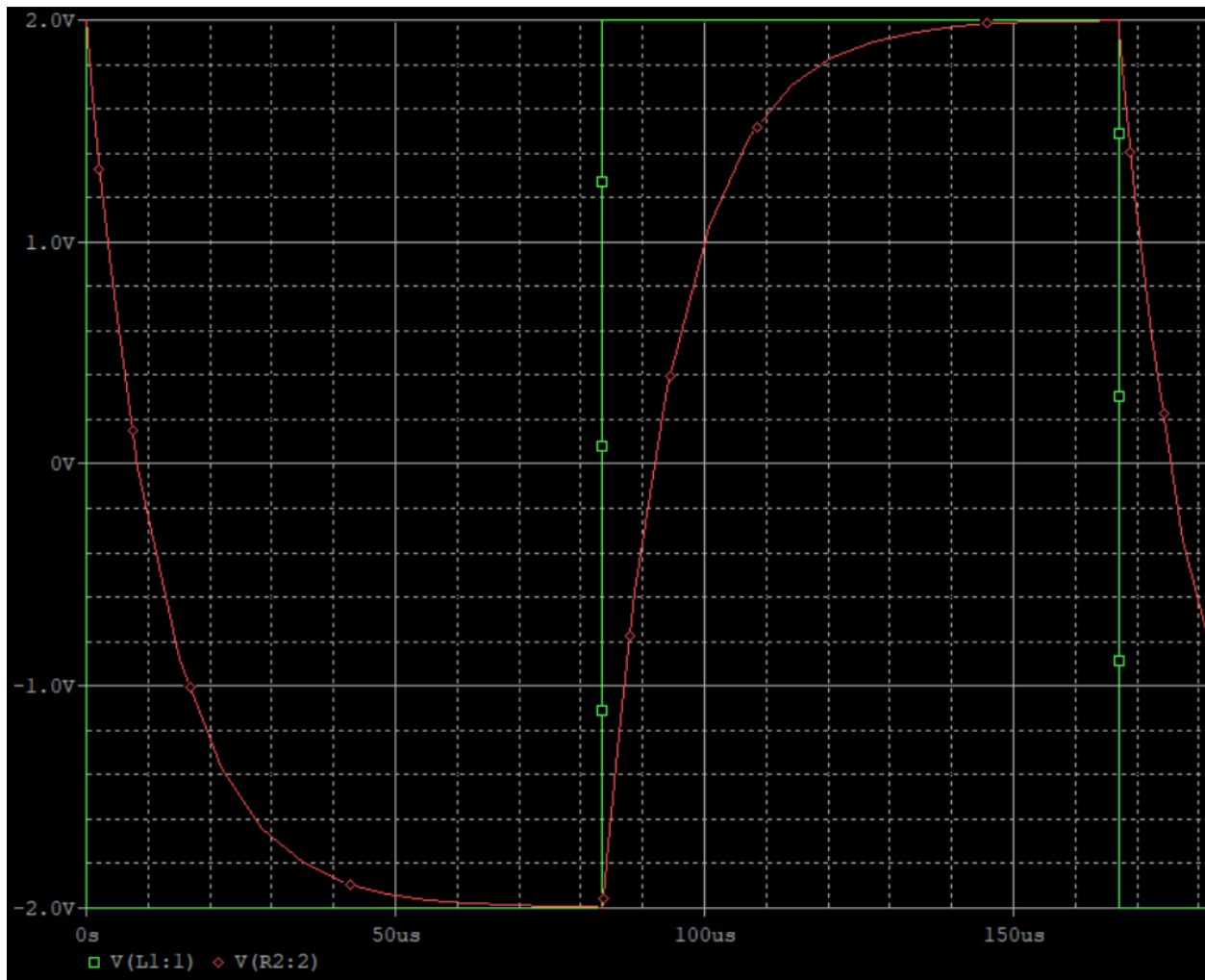
$$\left. \begin{aligned} \tau_1 &= \frac{1 \mu s}{1k} = 1 \mu s \\ \tau_2 &= \frac{1 \mu s}{10k} = 100 \text{ ns} \end{aligned} \right\} \leftarrow \tau = \frac{L}{R} \quad \text{نصف}$$



Probe Cursor

A1 = 18.225u, -532.472m
 A2 = 0.000, 2.0000
 dif= 18.225u, -2.5325

السجل الجانبي للوقت $\tau = 18.225 \mu s$ من السجل



Probe Cursor

A1 = 12.362u, -532.726m
 A2 = 10.000p, 1.9600
 dif= 12.362u, -2.4927

Handwritten text in Persian: $\tau = 12.36 \mu s$ (Time constant)