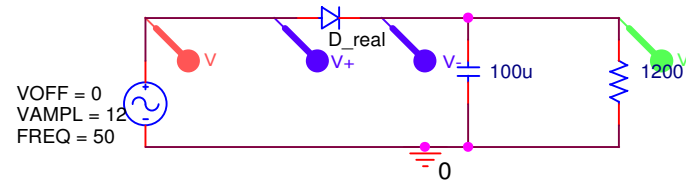
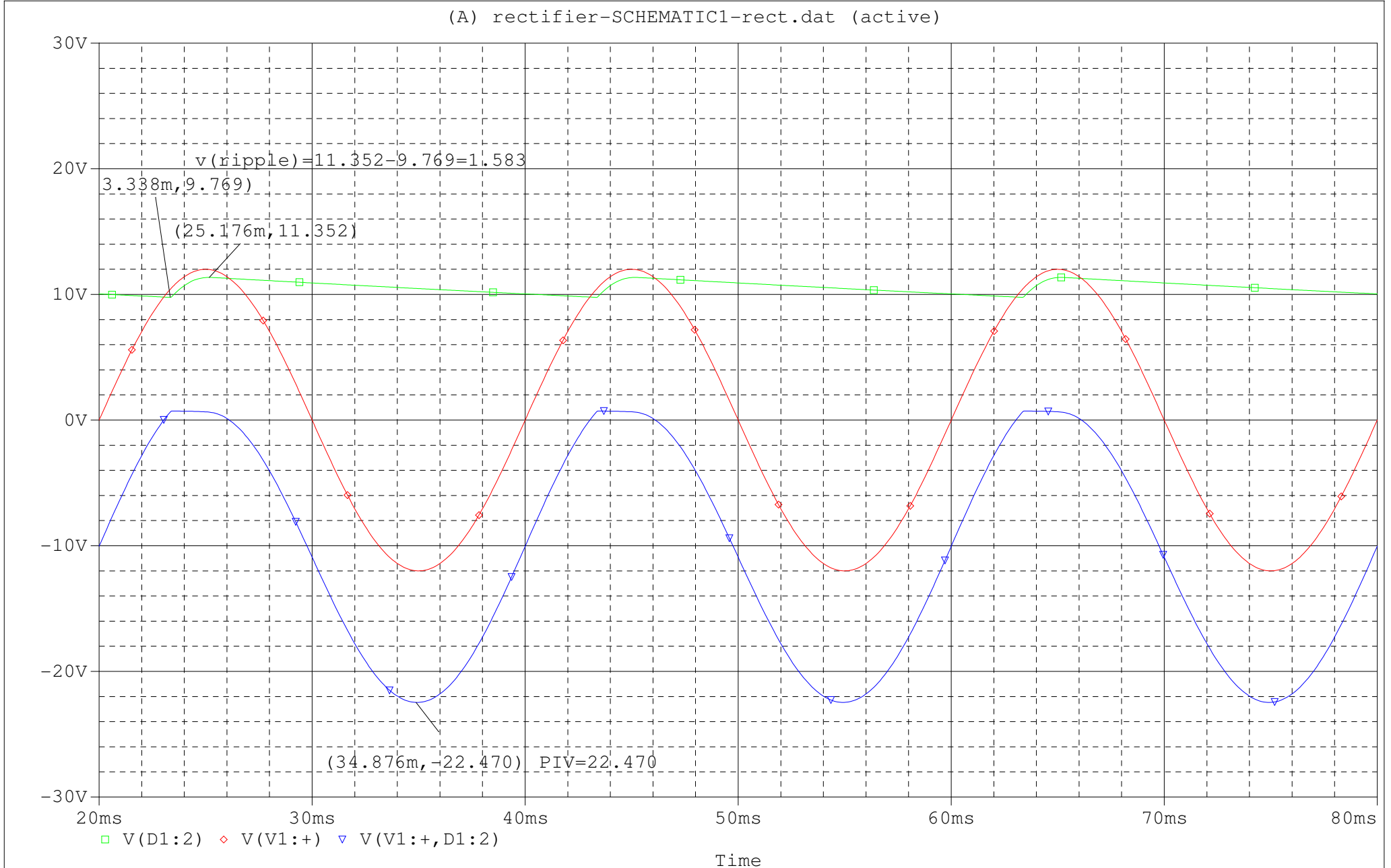


PART A: HALF WAVE RECTIFIER

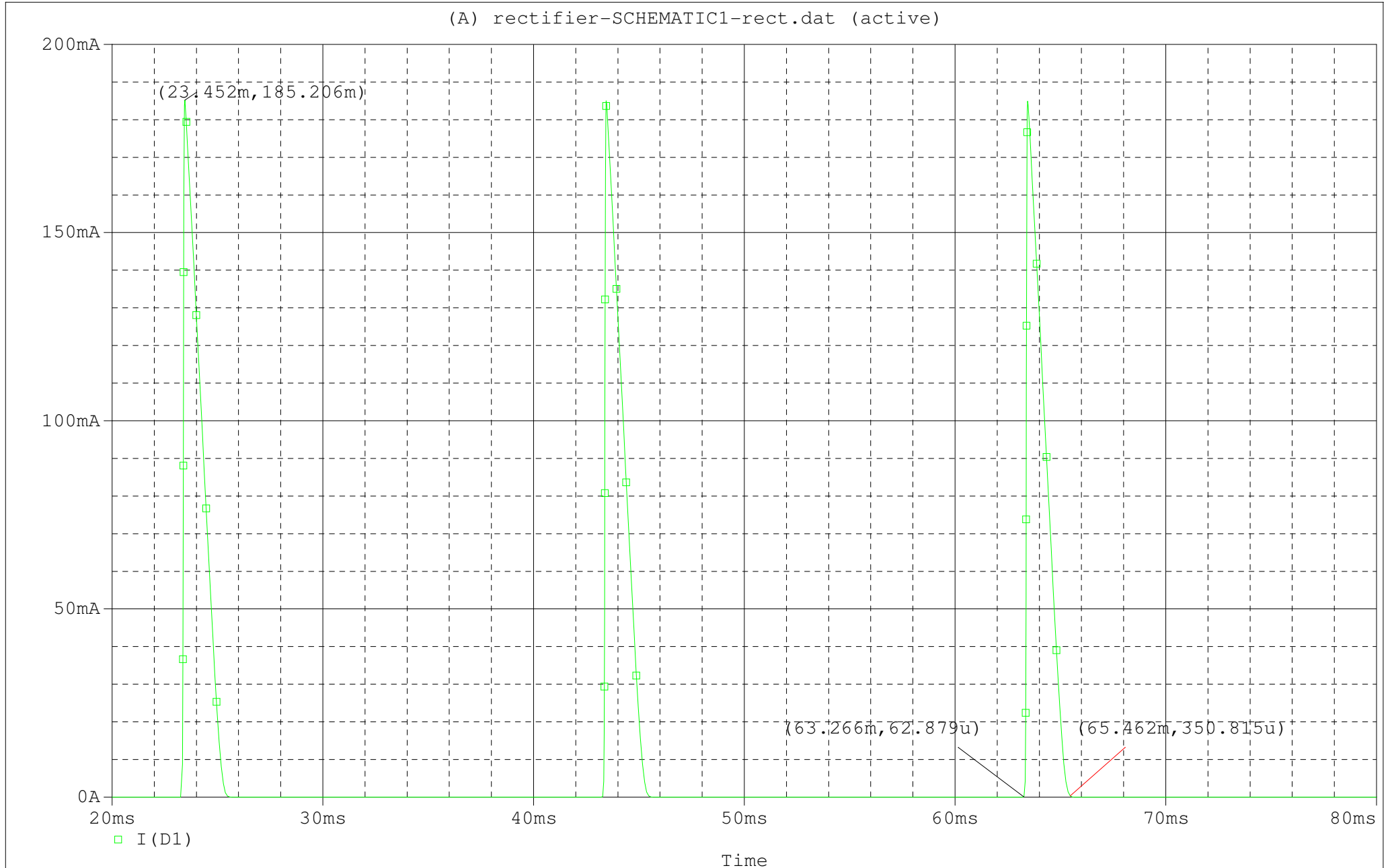


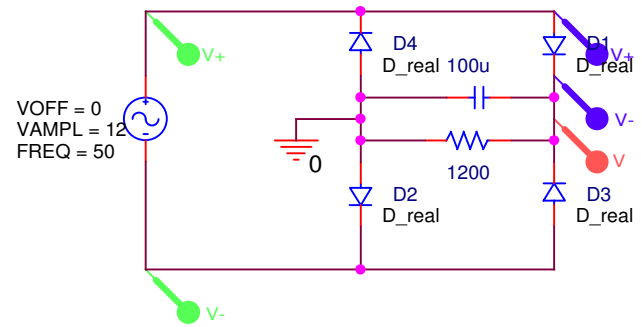
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	2	1

(A) rectifier-SCHEMATIC1-rect.dat (active)



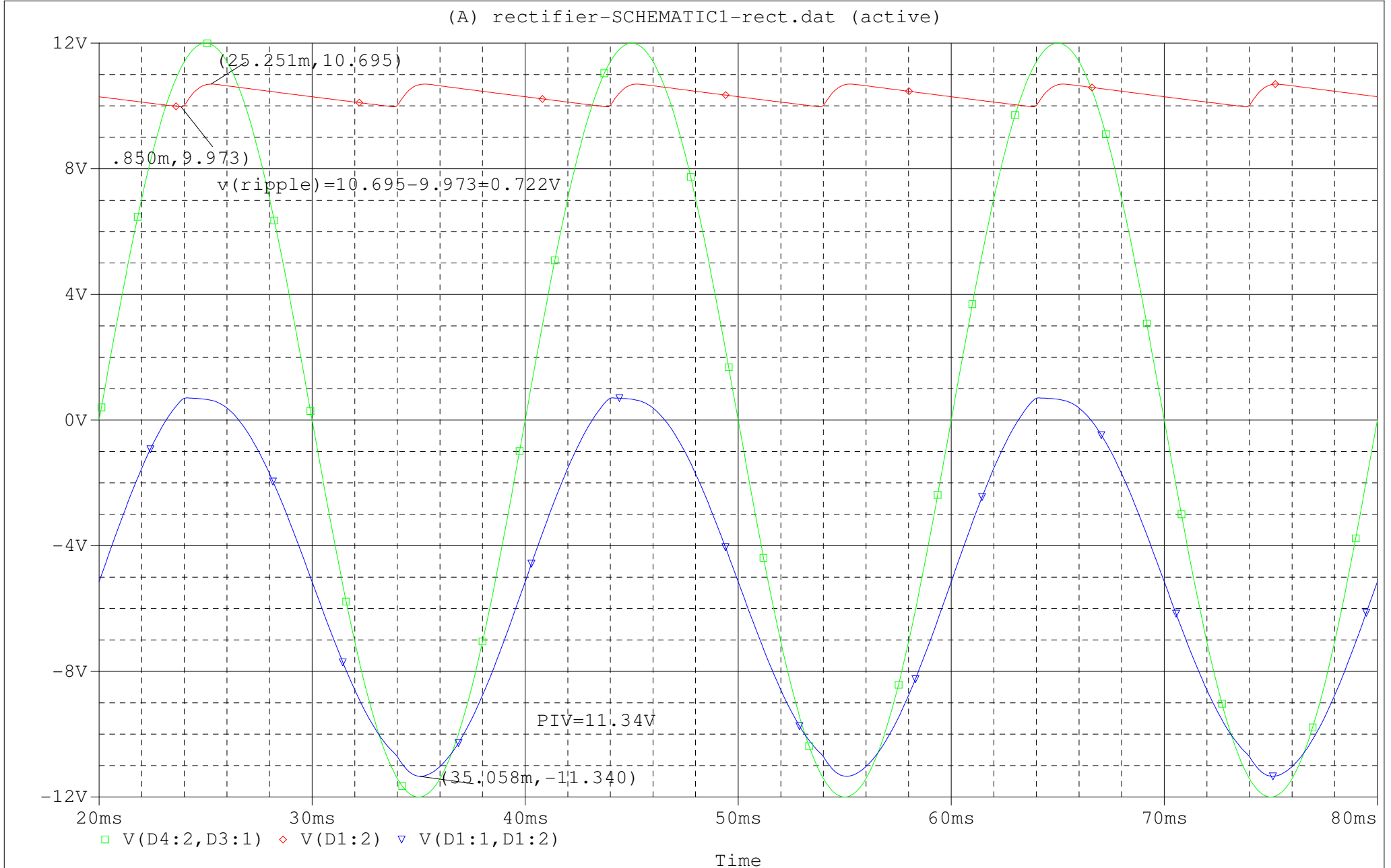
(A) rectifier-SCHEMATIC1-rect.dat (active)



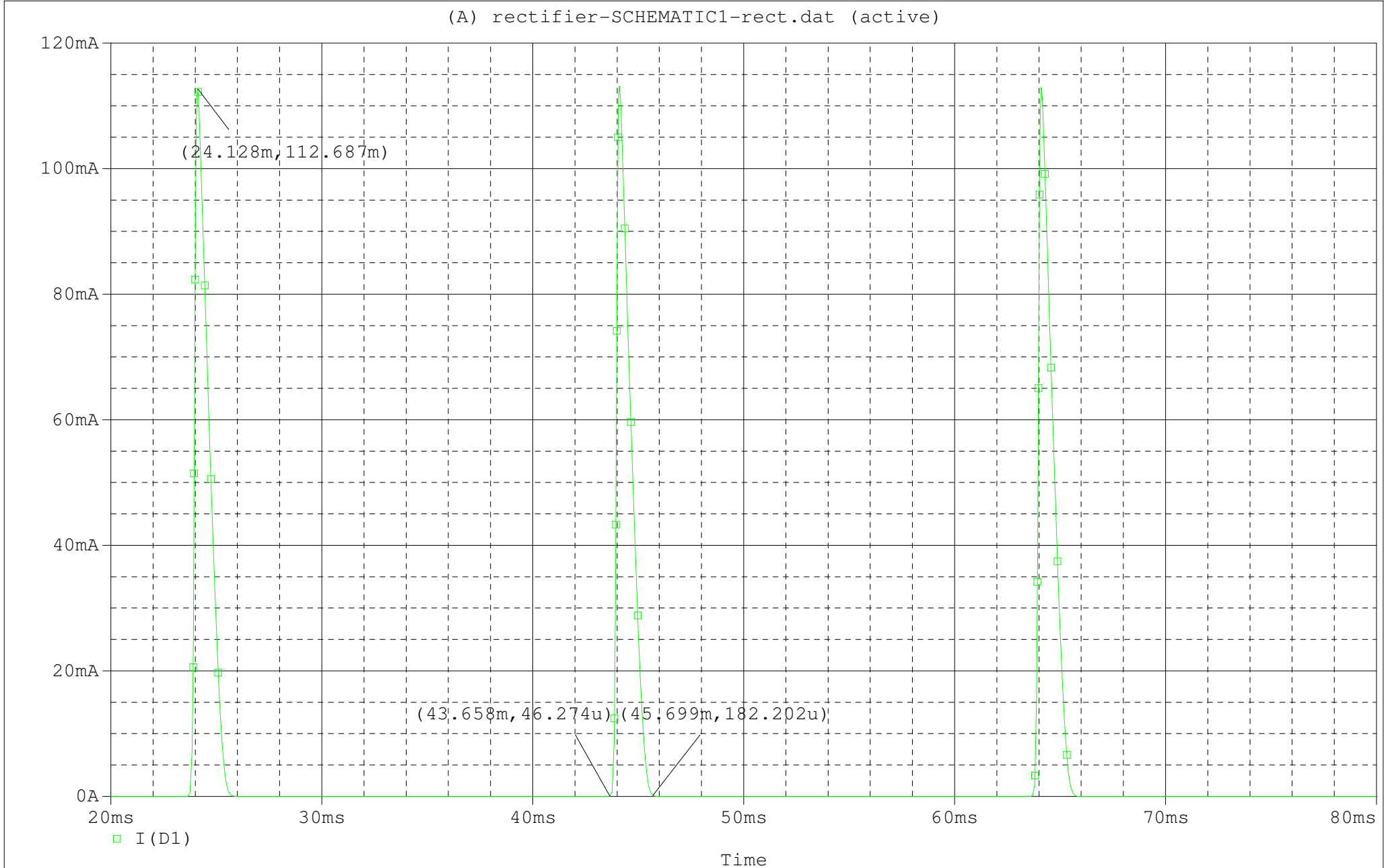


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(A) rectifier-SCHEMATIC1-rect.dat (active)



(A) rectifier-SCHEMATIC1-rect.dat (active)



PART A:

a) $V(\text{ripple})=1.583 \text{ V}$

b) $\text{PIV}=22.47 \text{ V}$

c) $i_{\text{peak}} = 185.206 \text{ mA}$.

$$I(\text{average}) = \frac{\frac{1}{2}i_{\text{peak}} \times \Delta t}{T} = \frac{0.5 \times 185.206 \times (65.462 - 63.266)}{20} = 10.17 \text{ mA}$$

PART B:

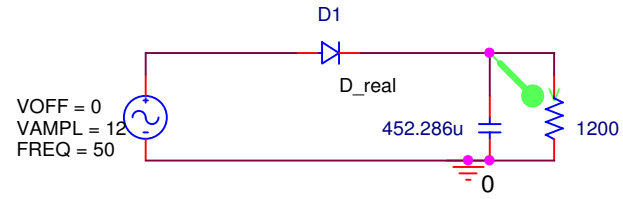
a) $V(\text{ripple})=0.722 \text{ V}$

b) $\text{PIV}=11.34 \text{ V}$

c) $i_{\text{peak}} = 112.687 \text{ mA}$.

$$I(\text{average}) = \frac{\frac{1}{2}i_{\text{peak}} \times \Delta t}{T} = \frac{0.5 \times 112.687 \times (45.699 - 43.658)}{20} = 5.75 \text{ mA}$$

PART C: HALF WAVE RECTIFIER

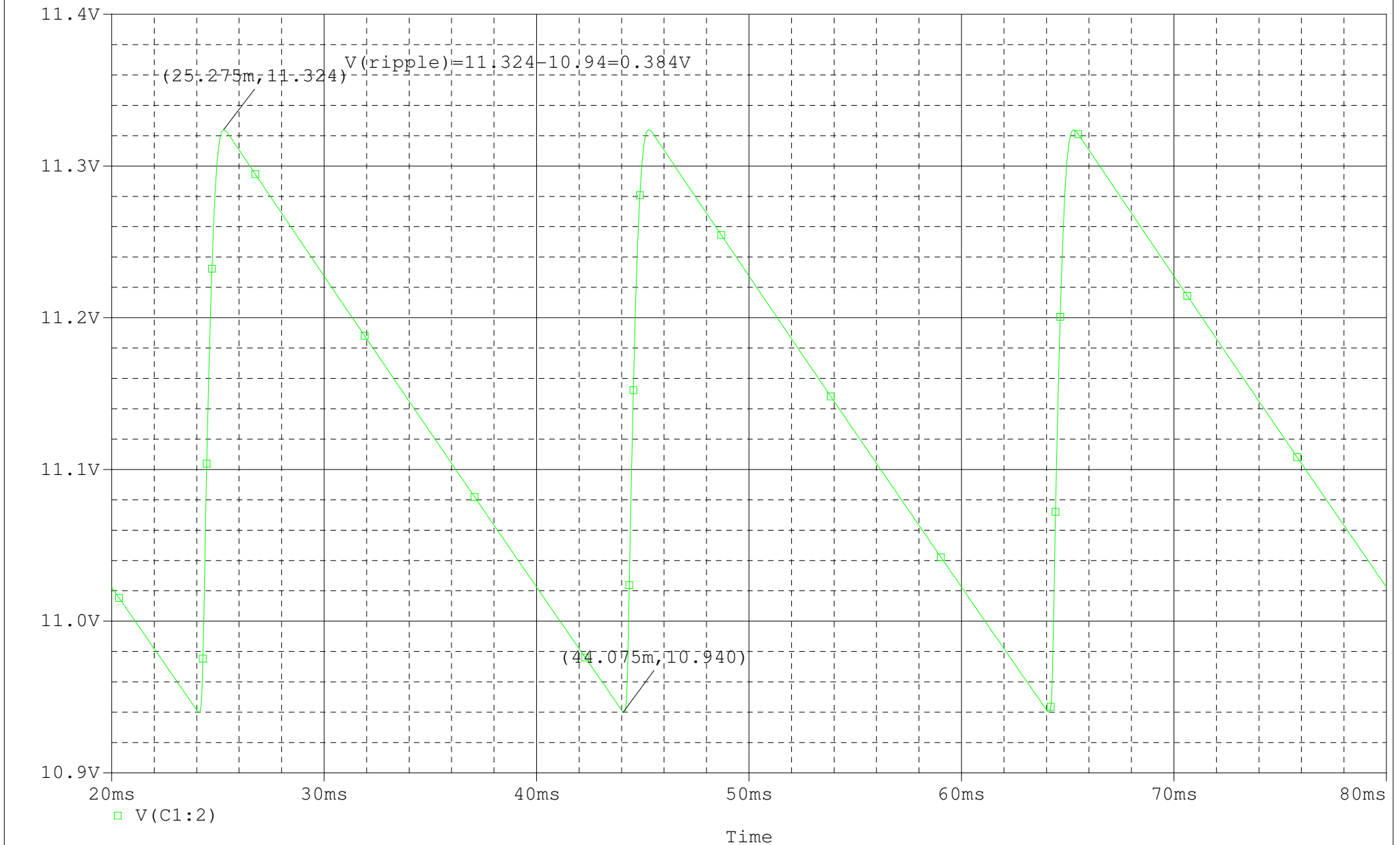


$$V(\text{ripple}) = V_p / (fRC) = k/C$$

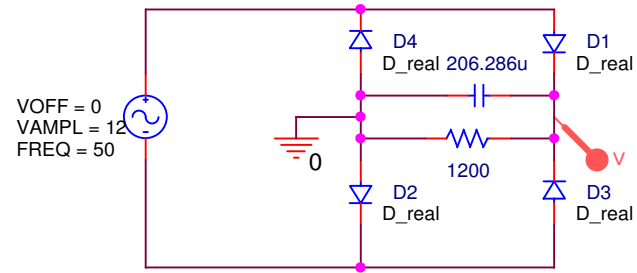
$$C2 = k/V2 = (C1 * V_{\text{ripp1}}) / V_{\text{ripp2}} = (100 * 1.583) / 0.35 = 452.286\mu$$

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(A) rectifier-SCHEMATIC1-rect.dat (active)



PART C: FULL WAVE RECTIFIER



$$V(\text{ripple}) = V_p / (2fRC) = k/C$$

$$C2 = k/V2 = (C1 * V_{\text{ripp1}}) / V_{\text{ripp2}} = (100 * 0.722) / 0.35 = 206.286 \mu$$

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(A) rectifier-SCHEMATIC1-rect.dat (active)

