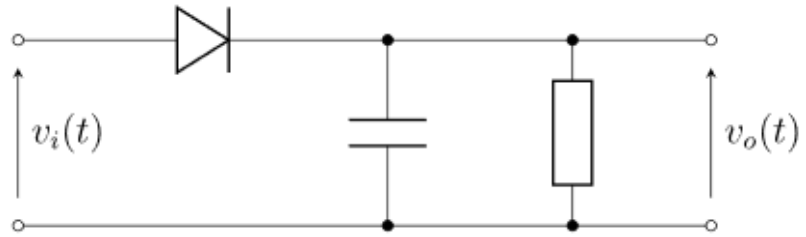


appVersion(4) = "0.99.6956.134"

$R := 100$ $C := 2 \cdot 10^{-6}$

$I_0 := 1 \cdot 10^{-5}$

$$i(u) := I_0 \cdot \left(\exp\left(\frac{u}{0.05}\right) - 1 \right)$$



$f := 7 \cdot 10^3$ $F := 1 \cdot 10^3$ $U_m := 5$ $ma := 0.5$ $\omega := 2 \cdot \pi \cdot f$ $\Omega := 2 \cdot \pi \cdot F$

$$u_{in}(t) := U_m \cdot (1 - ma \cdot \cos(\Omega \cdot t)) \cdot \sin(\omega \cdot t)$$

$AbsTol := 10^{-13}$ $RelTol := 10^{-12}$

$u := 0$ $t_{min} := 0$ $t_{max} := 0.002$ $N := 10^3$

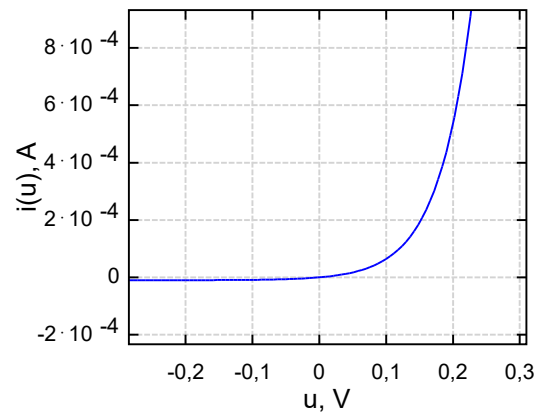
$$D(t, u) := -\frac{u}{R \cdot C} + \frac{1}{C} \cdot (i(u_{in}(t)) - u)$$

$start := time(0)$

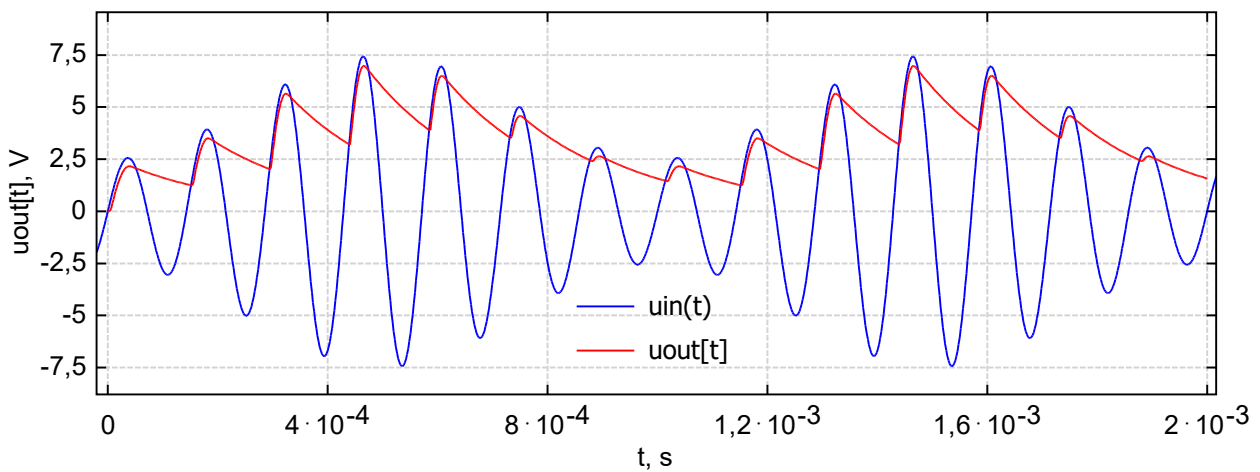
$u_{out} := lsoda(u, t_{min}, t_{max}, N - 1, D)$

$time(0) - start = 2.798$ c

I-V curve



Amplitude detector



$$\begin{cases} u_{in}(t) \\ u_{out} \end{cases}$$