AE-2019.0130

(1) $V_-\left(\frac{1}{R_1}+\frac{1}{R_2}+\frac{1}{R_o}\right)-V_{REF}\frac{1}{R_2}-V_i\cdot\frac{1}{R_1}-V_o\frac{1}{R_o}$

$V_- = 0$

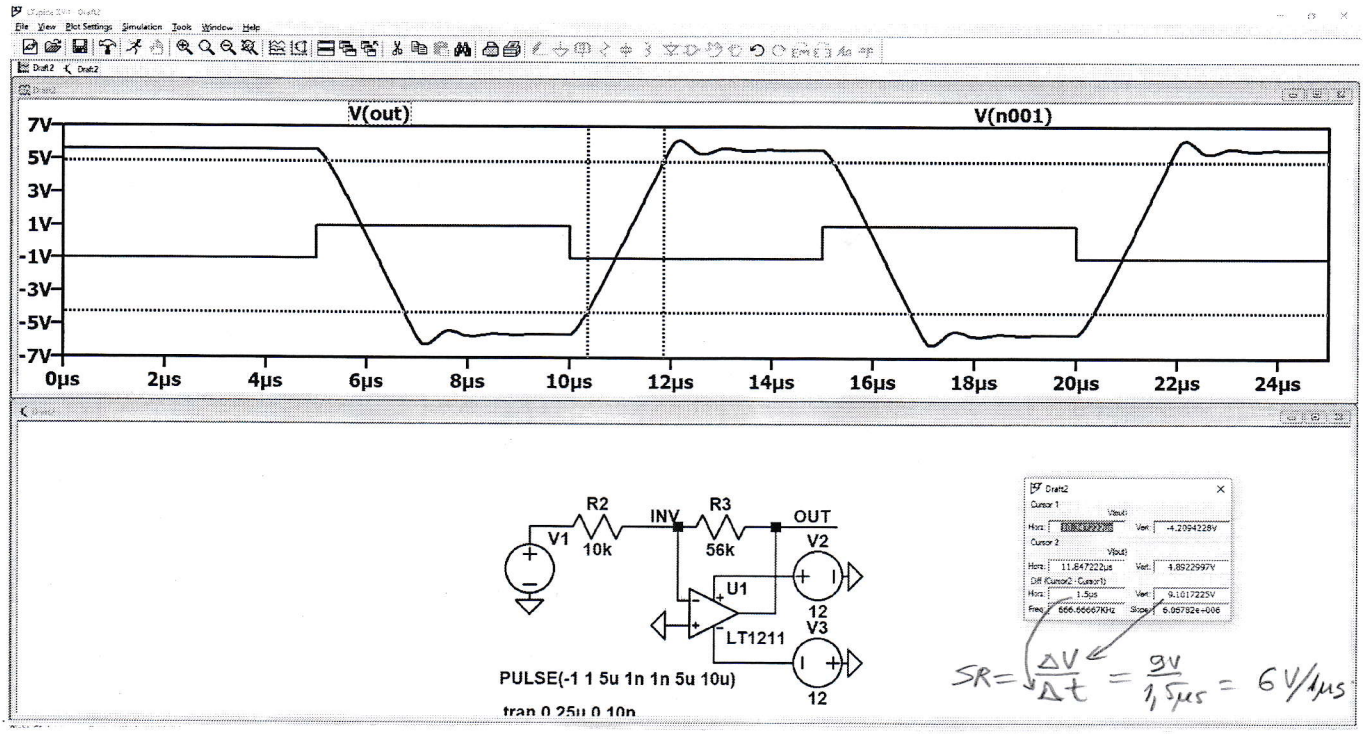
$V_o = -\frac{R_o}{R_1}\cdot V_i - \frac{R_o}{R_2}V_{ref}$

$V_i=0,\ V_o=-5 \Rightarrow -5 = -\frac{R_o}{R_1}\cdot 0 - \frac{R_o}{R_2}\cdot 5 \Rightarrow \frac{R_o}{R_2}=1 \Rightarrow R_2=100k\Omega$

$V_i=2,\ V_o=-10 \Rightarrow -10 = -\frac{R_o}{R_1}\cdot 2 - \frac{R_o}{R_2}\cdot 5 \Rightarrow -5 = -\frac{R_o}{R_1}\cdot 2;$

$\Rightarrow \frac{R_o}{R_1}=\frac{5}{2}\ ;\ R_1 = R_o\cdot\frac{2}{5} = 40k\Omega$

(2)



$SR = \frac{\Delta V}{\Delta t} = \frac{9V}{1{,}5\mu s} = 6\,V/\mu s$