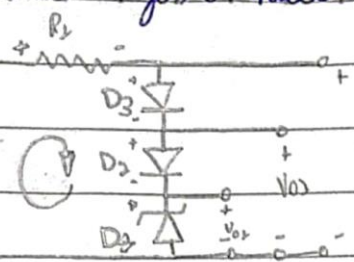


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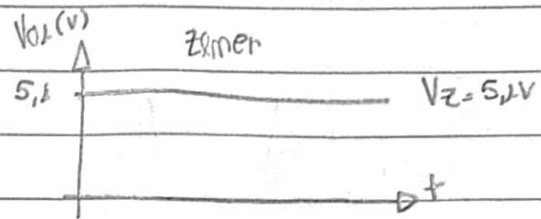
6)



$E = 12V$ $R_1 = 1k\Omega$

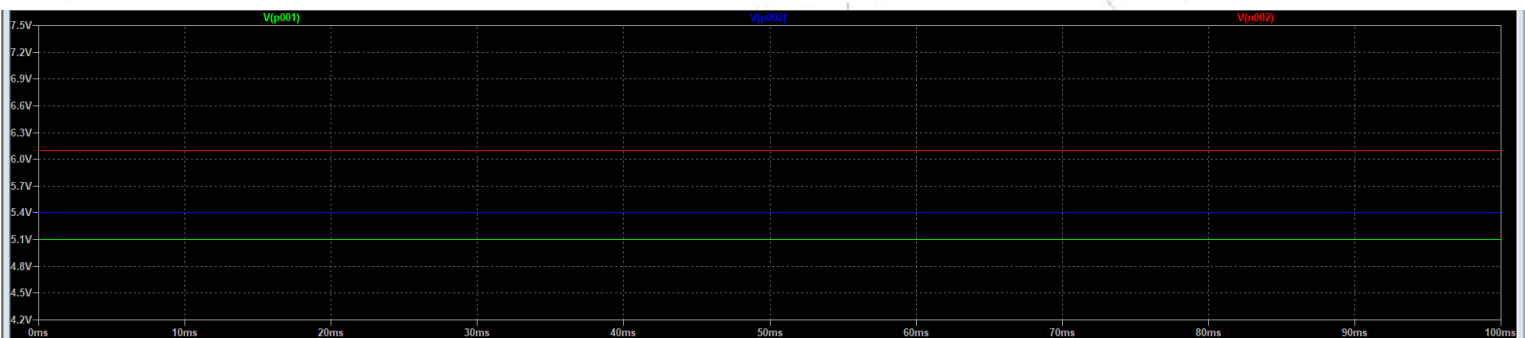
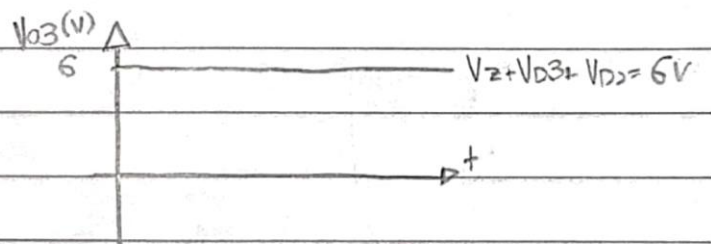
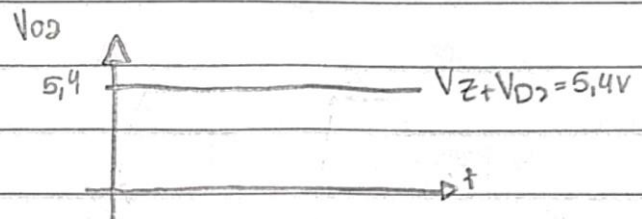
$V_{D1} = V_{D3} = 0,7V$ $V_{D2} = 0,3V$

$V_Z = 5,1V$



$$-E + V_{R1} + V_{D3} + V_{D2} + V_Z = 0$$

$$i_R = \frac{E - V_{D3} - V_{D2} - V_Z}{R} = 5,9mA$$



```
.model DGe D(Ron=0.0001 Roff=100G Vfwd=0.3)
.model DSi D(Ron=0.0001 Roff=100G Vfwd=0.7)
.model DiodoZener D(Ron=0 Roff=999meg Vfwd=0.7 Vrev=5.1)
```

