



Aluno(a):

Aula Teórica # 12

Disciplina:

EEL315 — Eletrônica I

Turma:

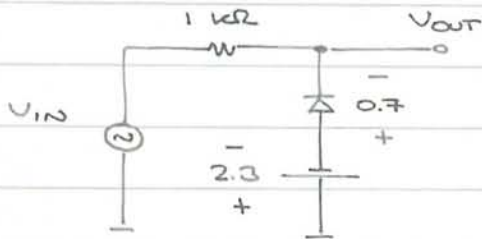
Professor(a):

José Gabriel

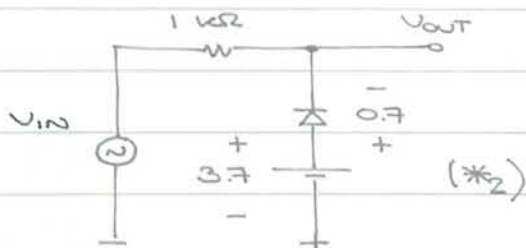
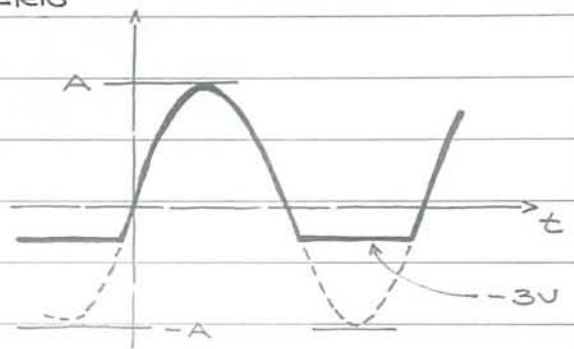
1
2
3
4
5

6 Limitadores de Tensão ("Limiters" ou "Clippers" ou "Diode Clipping Circuits")

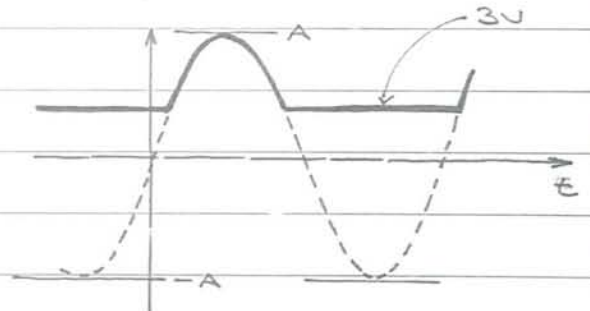
6.1 Limitador (ou Ceifador) Negativo, em Paralelo (*)



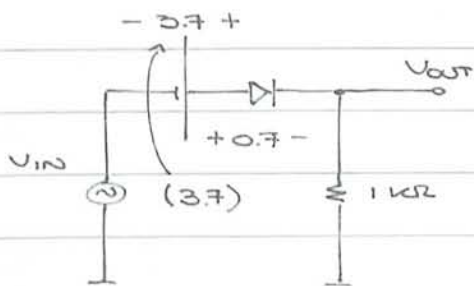
V_{IN}	V_{OUT}
-1	-1
-2	-2
-3	-3
-4	-3
-5	-3



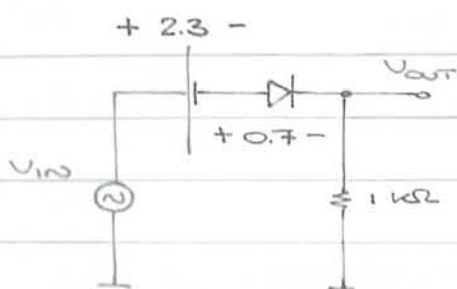
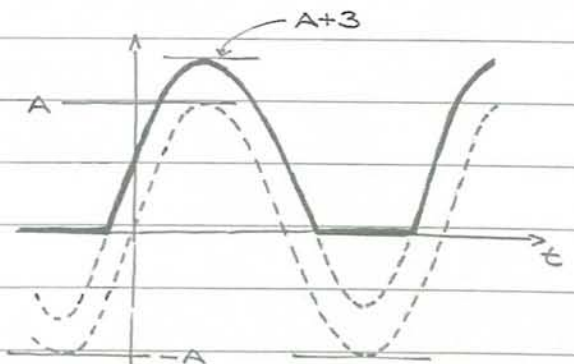
V_{IN}	V_{OUT}
5	5
4	4
3	3
2	3
-1	3



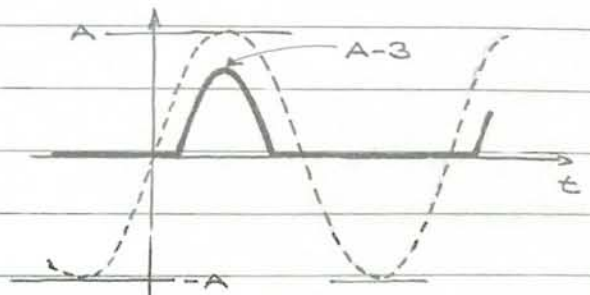
6.2 Limitador (ou Ceifador) Negativo, em Série



V_{IN}	V_{OUT}
-1	2
-2	1
-3	0
-4	0
-5	0



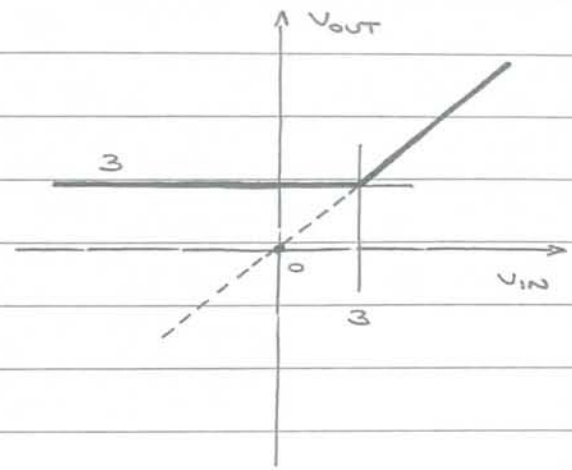
V_{IN}	V_{OUT}
5	2
4	1
3	0
2	0
-1	0



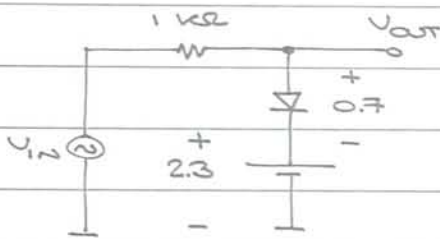
(*) Os limitadores negativos eliminam a parte inferior da forma de onda.

(*2): Exemplo de gráficos $V_{OUT} \times V_{IN}$ (para o segundo circuito da Seção 6.1).

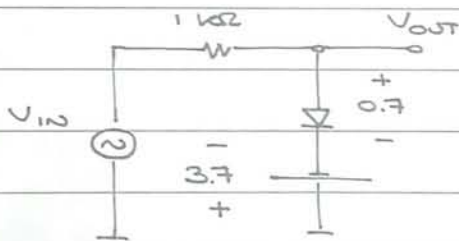
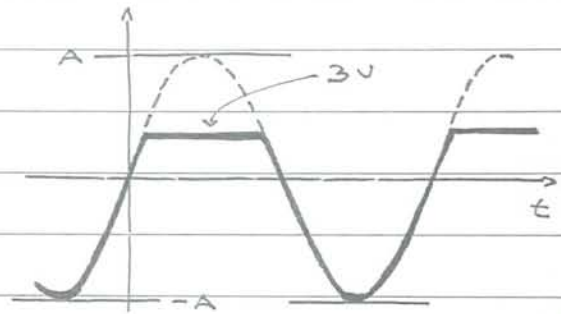
Este gráfico representa a "relação estática" (sem tempo) de transferência entre V_{IN} e V_{OUT} . Usamos a palavra "estática" para frisar que V_{OUT} só depende de V_{IN} no instante t atual, para qualquer t , e não da função $V_{IN}(t)$.



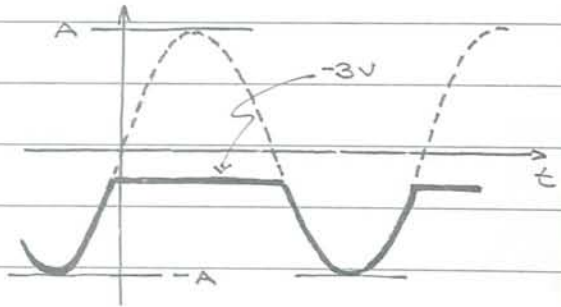
6.3 Limitador (ou Ceifador) Positivo (*), em Paralelo



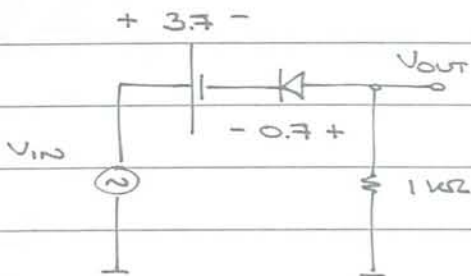
V_{IN}	V_{OUT}
5	3
4	3
3	3
2	2
1	1



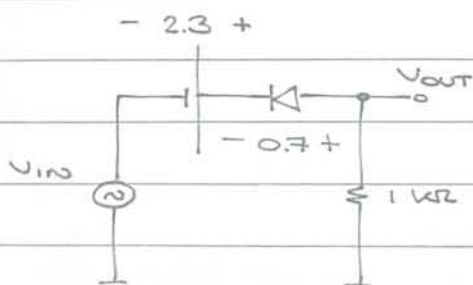
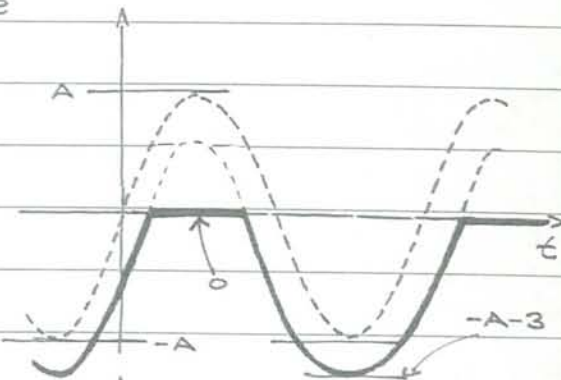
V_{IN}	V_{OUT}
-1	-3
-2	-3
-3	-3
-4	-4
-5	-5



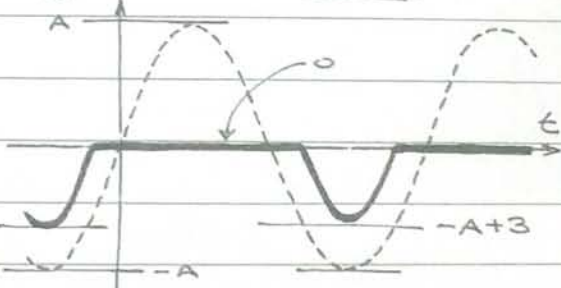
6.4 Limitador (ou Ceifador) Positivo, em Série



V_{IN}	V_{OUT}
5	0
4	0
3	0
2	-1
1	-2

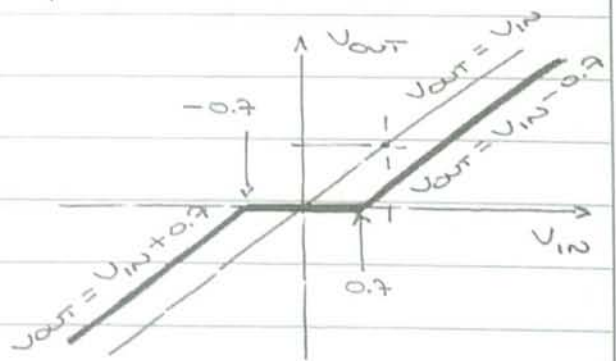
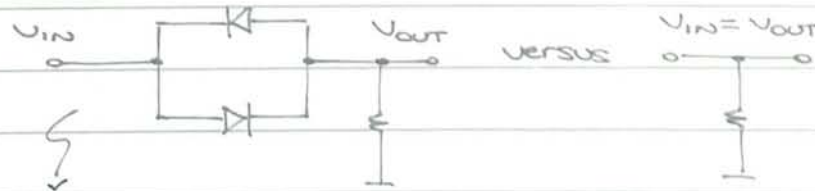
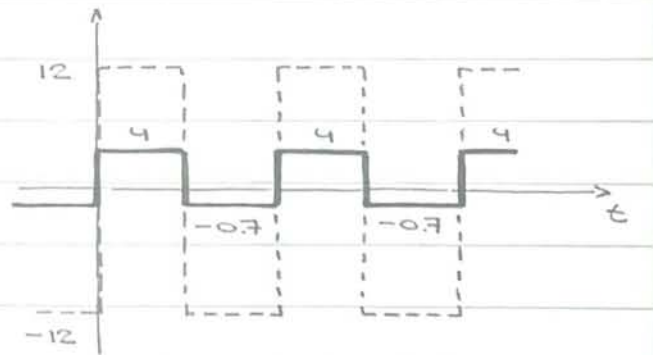
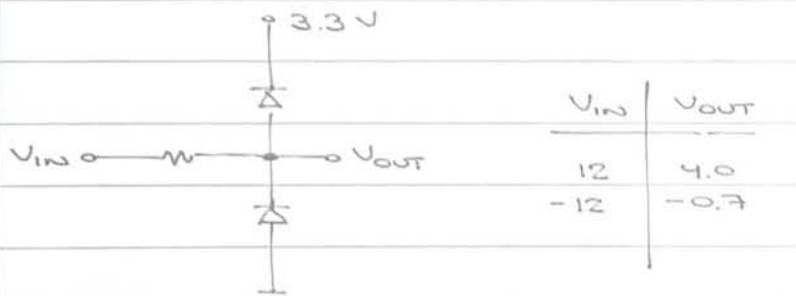
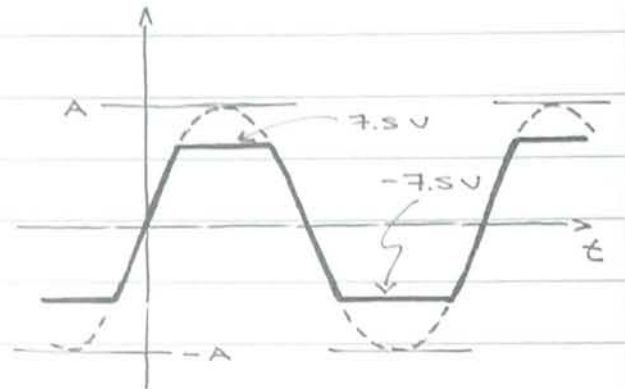
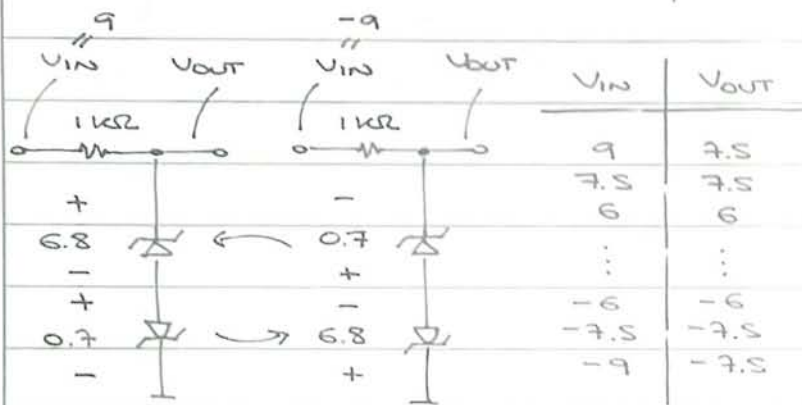
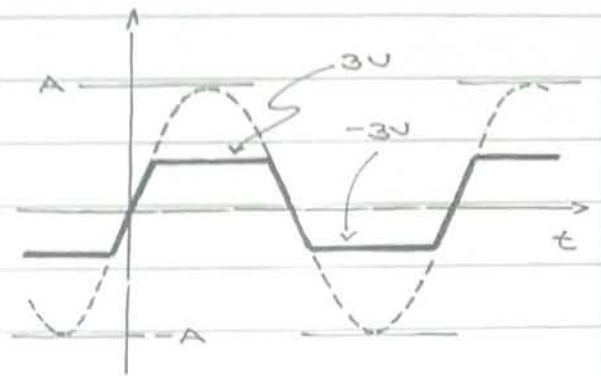
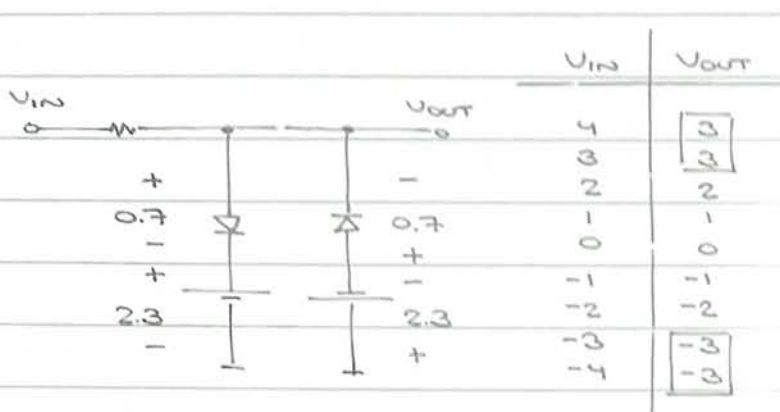


V_{IN}	V_{OUT}
-1	0
-2	0
-3	0
-4	-1
-5	-2



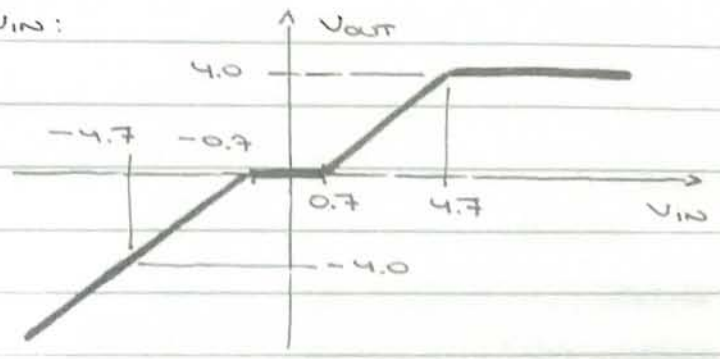
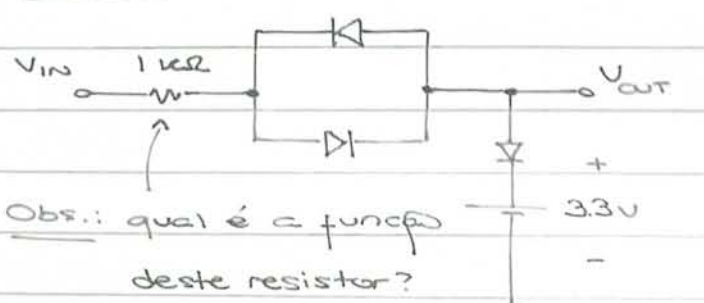
(* Os limitadores positivos eliminam a parte superior da forma de onda.

6.5 Limitadores Duplos e Outros



Este circuito ilustra a possibilidade de estabelecermos $\Delta V_{OUT}/\Delta V_{IN} \approx 0$ para V_{IN} pertencente a um intervalo $[a, b]$ arbitrário ($[-0.7, 0.7]$, no caso).

Exercício: Desenhe o gráfico $V_{OUT} \times V_{IN}$:



Obs.: qual é a função deste resistor?