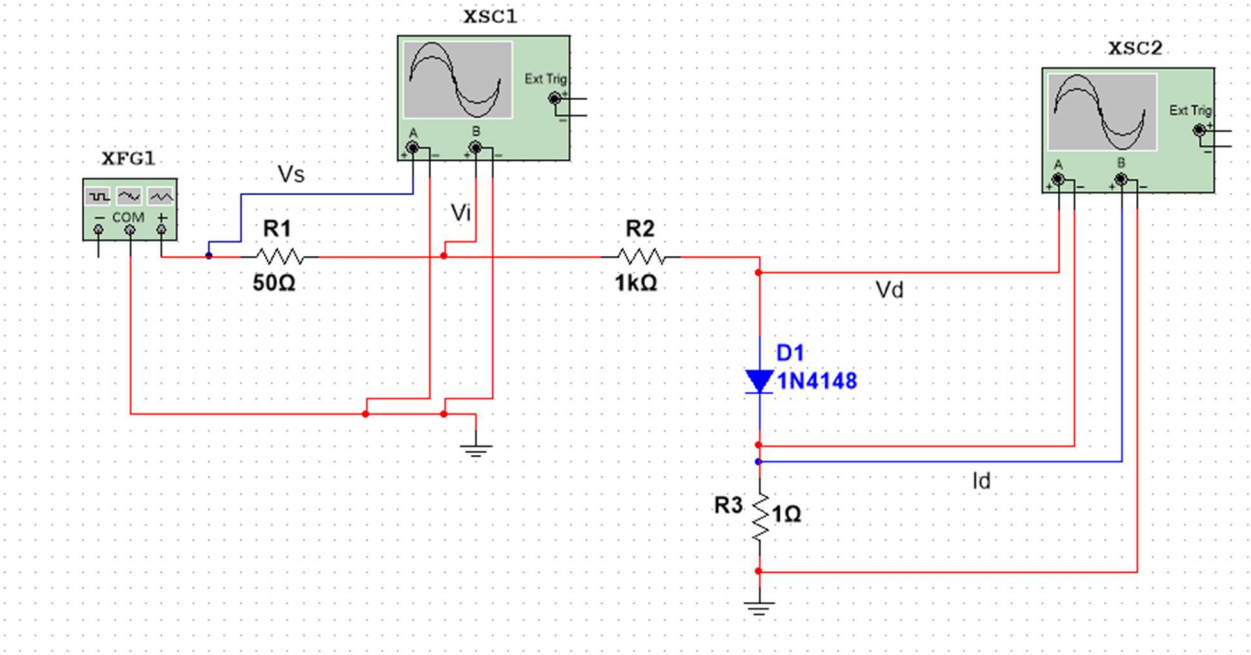
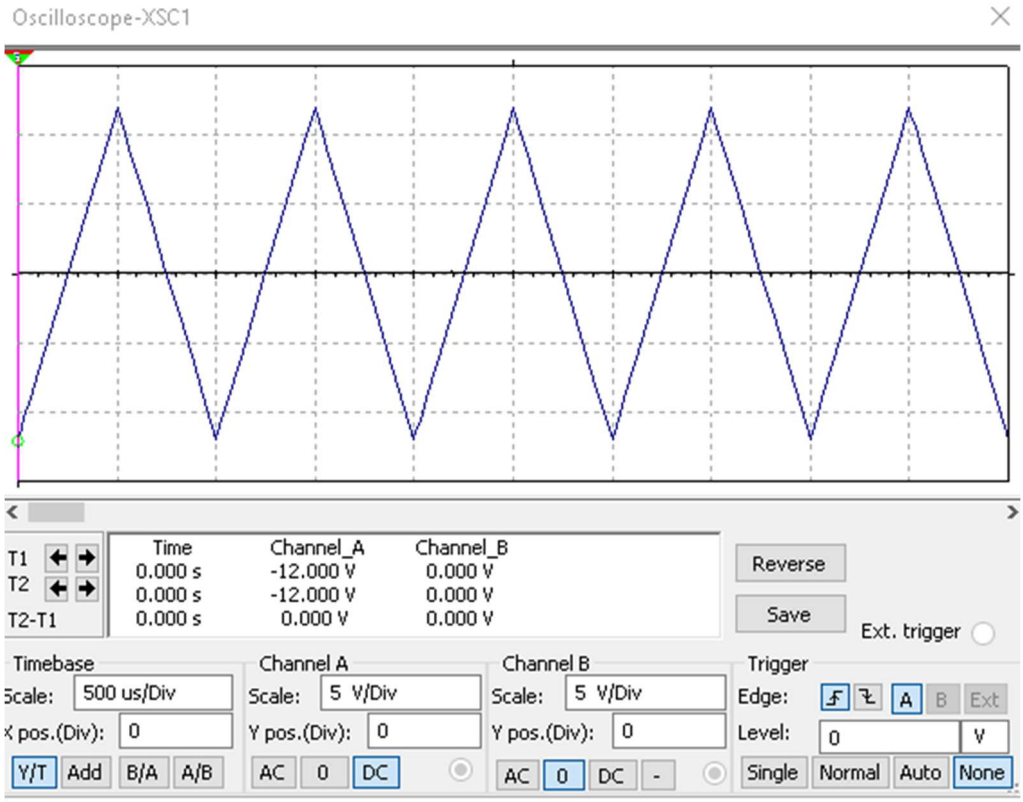
Circuit

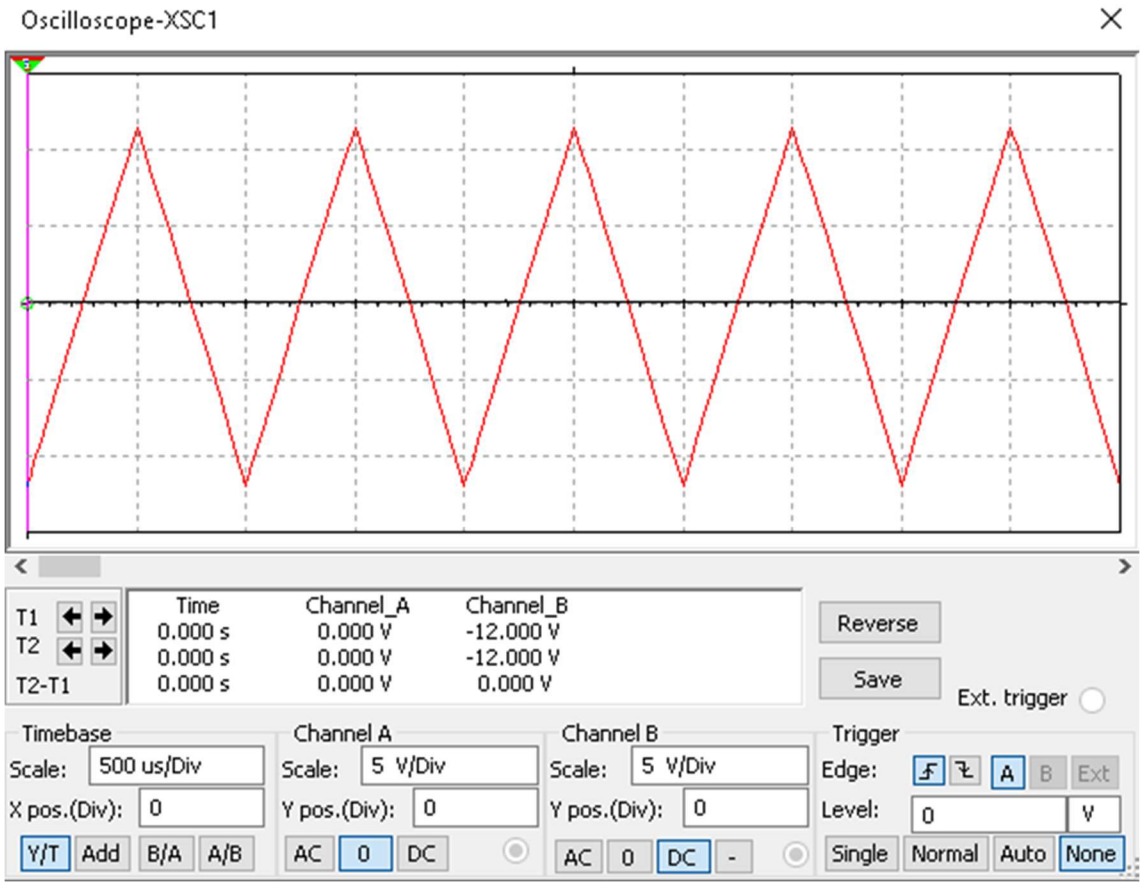


Graph P1(a)

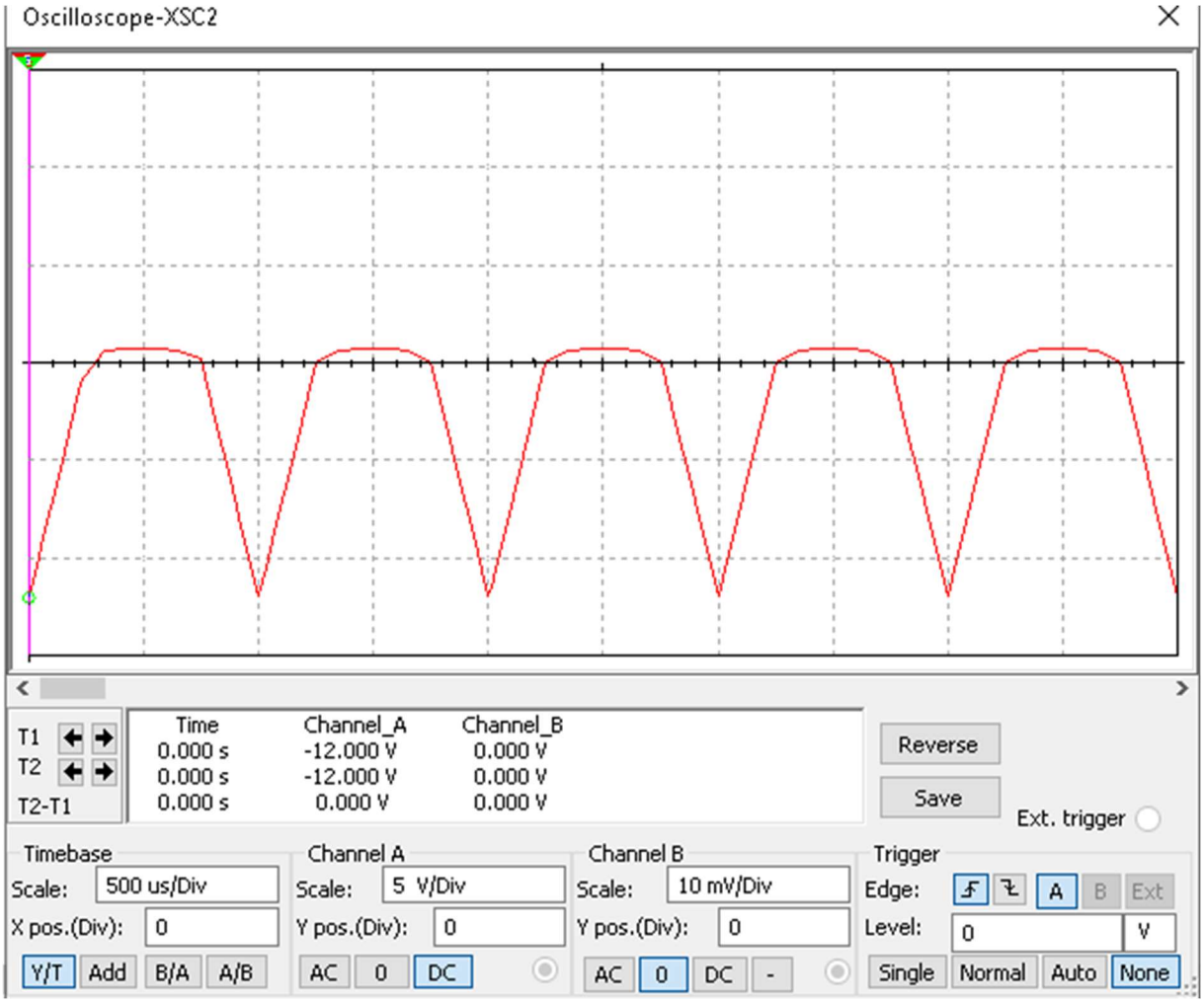
Vs:



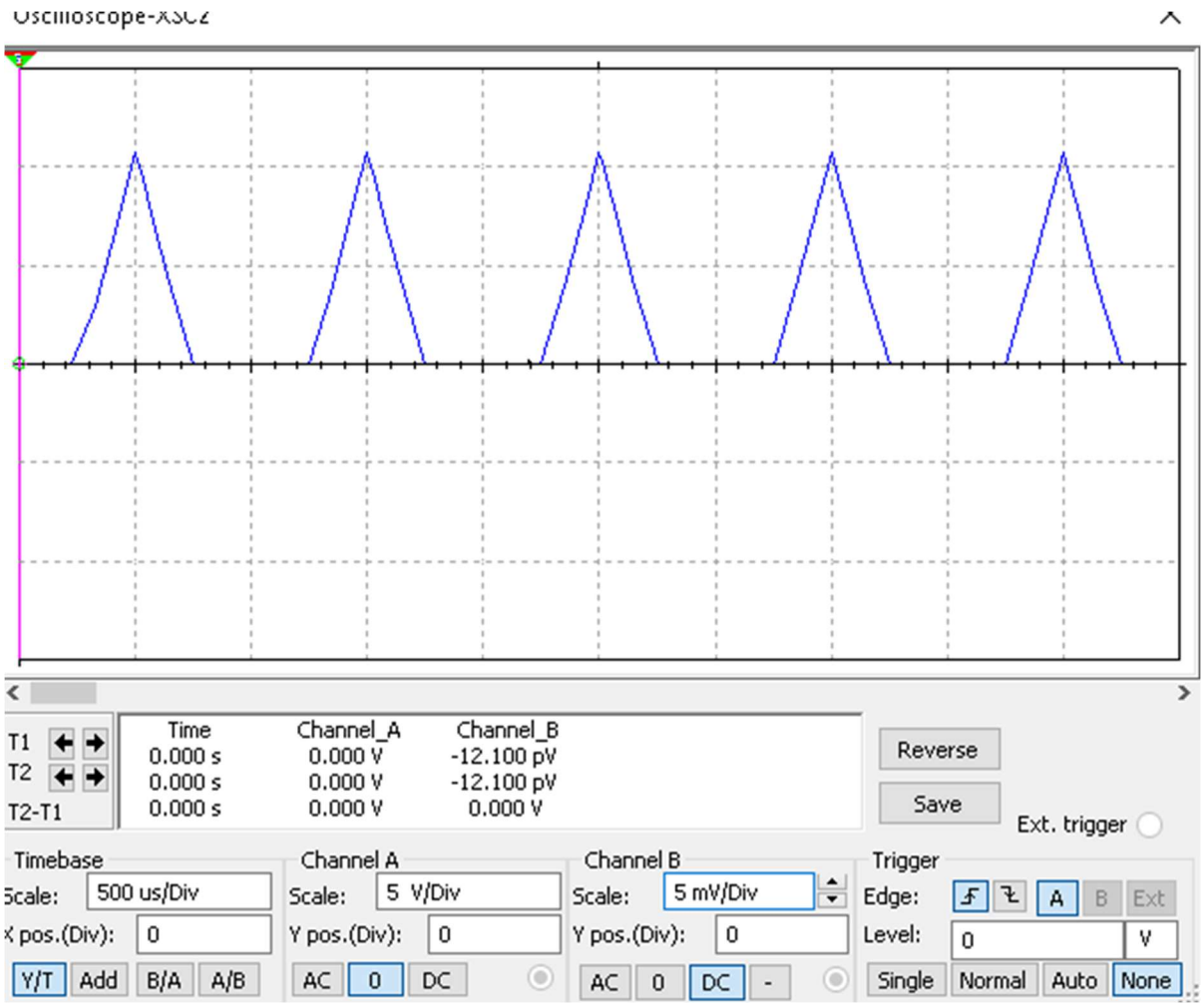
Vi:


Oscilloscope-XSC1
T1
T2
T2-T1
Time
0.000 s
0.000 s
0.000 s
Channel_A
0.000 V
0.000 V
0.000 V
Channel_B
-12.000 V
-12.000 V
0.000 V
Reverse
Save
Ext. trigger
Timebase
Scale: 500 us/Div
X pos.(Div): 0
Y/T Add B/A A/B
Channel A
Scale: 5 V/Div
Y pos.(Div): 0
AC 0 DC
Channel B
Scale: 5 V/Div
Y pos.(Div): 0
AC 0 DC -
Trigger
Edge: A B Ext
Level: 0 V
Single Normal Auto None

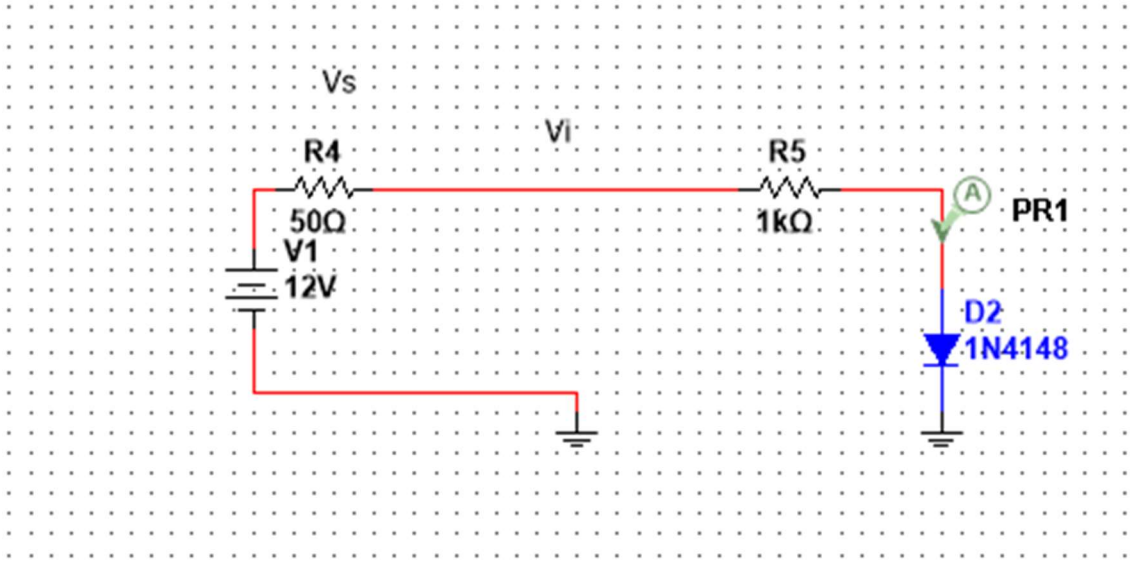
Vd:

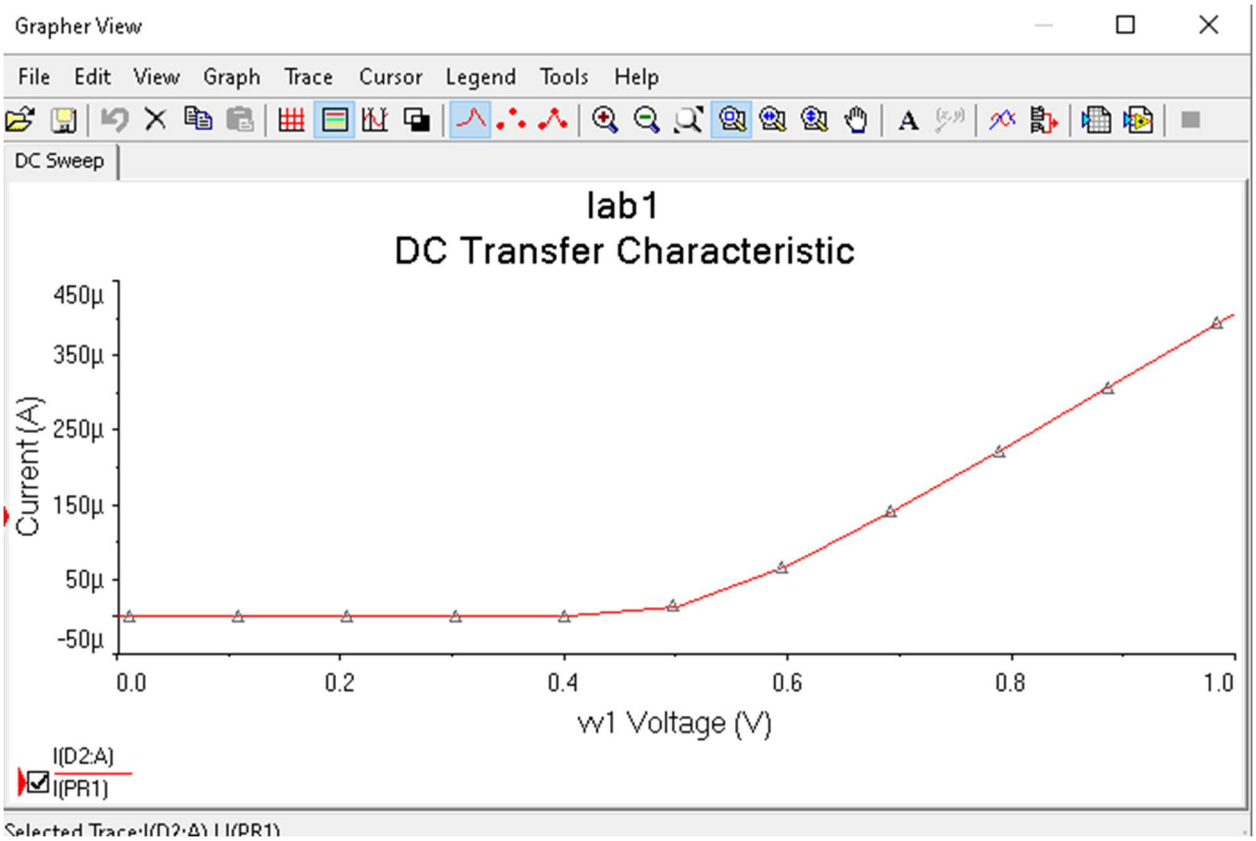

Oscilloscope-XSC2
T1
T2
T2-T1
Time
Channel_A
Channel_B
0.000 s
-12.000 V
0.000 V
0.000 s
-12.000 V
0.000 V
0.000 s
0.000 V
0.000 V
Reverse
Save
Ext. trigger
Timebase
Scale: 500 us/Div
X pos.(Div): 0
Y/T
Add
B/A
A/B
Channel A
Scale: 5 V/Div
Y pos.(Div): 0
AC
0
DC
Channel B
Scale: 10 mV/Div
Y pos.(Div): 0
AC
0
DC
-
Trigger
Edge:
A
B
Ext
Level: 0 V
Single
Normal
Auto
None

Id:


Oscilloscope-A3C2
T1
T2
T2-T1
Time
Channel_A
Channel_B
0.000 s
0.000 V
-12.100 pV
0.000 s
0.000 V
-12.100 pV
0.000 s
0.000 V
0.000 V
Reverse
Save
Ext. trigger
Timebase
Scale:
500 us/Div
X pos.(Div):
0
Y/T
Add
B/A
A/B
Channel A
Scale:
5 V/Div
Y pos.(Div):
0
AC
0
DC
Channel B
Scale:
5 mV/Div
Y pos.(Div):
0
AC
0
DC
-
Trigger
Edge:
A
B
Ext
Level:
0
V
Single
Normal
Auto
None

Graph P1(b):


Vs
Vi
R4
50Ω
V1
12V
R5
1kΩ
PR1
D2
1N4148


Grapher View
File Edit View Graph Trace Cursor Legend Tools Help
DC Sweep
lab1
DC Transfer Characteristic
Current (A)
450µ
350µ
250µ
150µ
50µ
-50µ
0.0
0.2
0.4
0.6
0.8
1.0
w1 Voltage (V)
I(D2:A)
I(PR1)