



Diode and Zener Diode

Junction Diode And Zener Diode Characteristic curve

Objectives:-

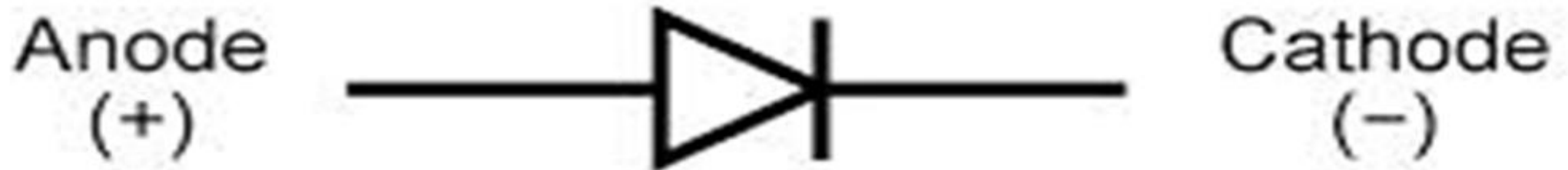
- To investigate the forward biased characteristics of Silicon Diode.

- To investigate the Reversed biased characteristics of zener Diode.

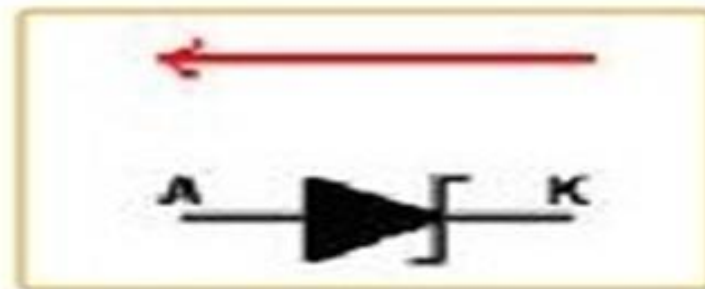
Equipment And Components Required

- Silicon Diode 1pc
- Zener Diode 1pc
- Resistor 100 Ω 1pc
- Ampere meter or Multimeter with mA range 1set
- Voltmeter or Multimeter 1set
- Variable Power supply

Diodes



ZENER DIODE







HEWLETT
PACKARD

34401A
MULTIMETER



Off
On

DC I

DC V

AC I

AC V

Ω 4W

Ω 2W

Period

Freq



Cont \Rightarrow

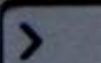
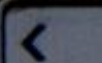
dB

Null

dBm

Min
Max

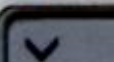
On/Off MENU Recall



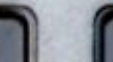
CHOICES

RANGE / DIGITS

4



5



LEVEL

6

Auto/
Man

ENTER

Auto/Hold

Single

TRIG

Shift

LOCAL

Ω 4W Sense/
Ratio Ref

HI



Input
V Ω \rightarrow

HI



200V
Max

1000V
Max

LO



LO

500Vpk
Max

3A
RMS

Terminals

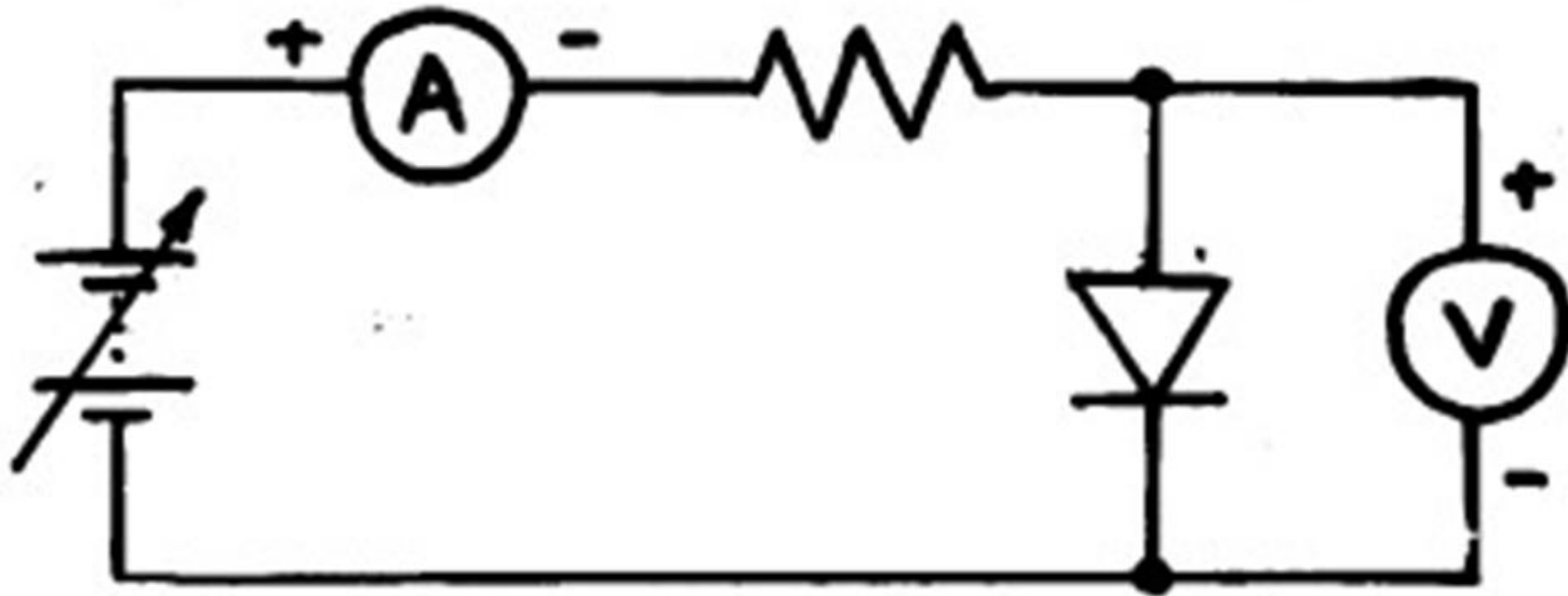


Front
Rear

Fused on
Rear Panel



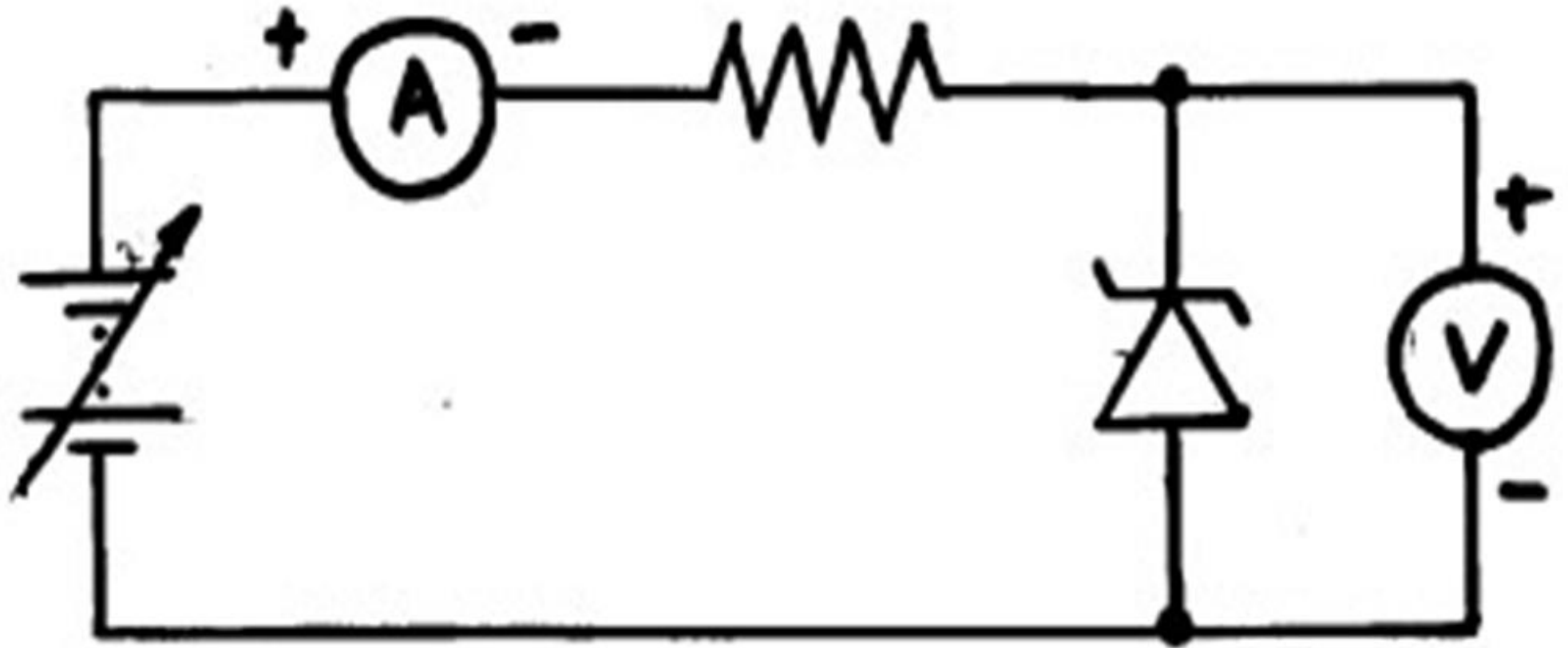
To plot the $V-I$ curve of Forward Bias Silicon Diode.



Observation Table For Forward Bias Si Diode

V_D (Volts)	I_D (mA)
0	
0.2	
0.3	
	0.1
	0.2
	0.5
	1
	2
	4
	6
	10
	15
	20

To plot the $V-I$ curve of Reverse Bias Zener Diode.

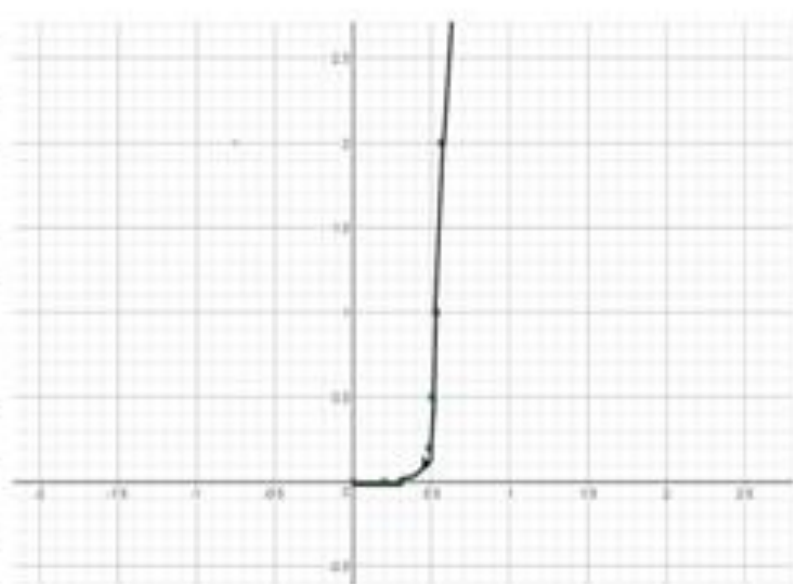


Reverse Characteristic table Zener (9v1)

V_z (Volts)	I_z (mA)
2	
4	
6	
8	
	0.5
	1
	2
	5
	10
	20
	40

Observation for forward characteristics of Silicon diode:

V_f (Volts)	I_f (milliamperes)
0	0
0.2	0
0.3	0
0.461	0.1
0.484	0.2
0.5	1
0.56	2
0.59	4
0.61	6
0.64	10
0.66	15
0.67	20



Observation for reverse characteristics of Zener diode:

V_o (Volts)	I_R (Current)
2	0
4	0
6	0
8	0
8.81	0.5
8.87	1
8.89	2
8.94	5
9.04	10
9.20	20
9.45	40

