

ZENER DIODE CHARACTERISTICS

Aim:-

To draw the I-V characteristics of zener diode and to determine the knee voltage, zener voltage and dynamic resistance in breakdown region

Apparatus:-

- Zener diode,
- Dc power supply (0 to 20v),
- Digital voltmeter,
- Digital ammeter,
- Resistor circuit unit.

Theory:

- i. What is a diode? Its formation.
- ii. Forward Biasing and Reverse biasing definition
- iii. Diode equation.
- iv. Zener diode.

Procedure:

Forward biasing process and diagram and knee voltage definition.

Reverse biasing process and diagram and Zener breakdown voltage definition.

Dynamic Resistance definition.

I-V graph


Table

Calculations of all three values from graph.


Results

Conclusion

Applications....



S.No	F.b (V)	F.b I(mA)	R.b (V)	R.b (I)
1	0	0	0	0
2	0.07	0	0.5	0
3	0.15	0	1	0
4	0.55	0	1.5	0
5	0.72	0.1	2	0
6	0.77	0.5	3	0
7	0.79	1.3	4	0
8	0.82	2.4	5	0
9	0.86	6.1	6	0
10	0.90	13.7	7	0



0.92	18.6	8	0
0.95	23.2	9	0
0.99	31.5	10	0
1.01	36.9	11	0
1.03	41.3	12	0
1.04	47.2	12.25	0.07
1.06	51.7	12.35	1.8
1.08	56.5	12.55	5.2
1.10	62.4	12.70	9.8
1.02	68.5	13.58	12.7



THANK YOU