

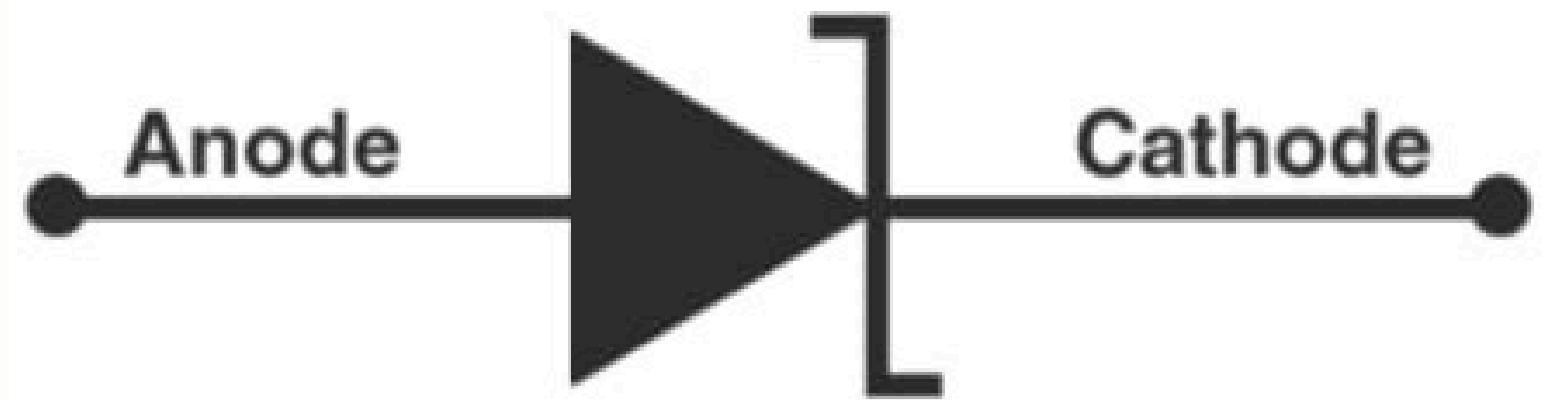


ZENNOR DIODE

DEFINITION

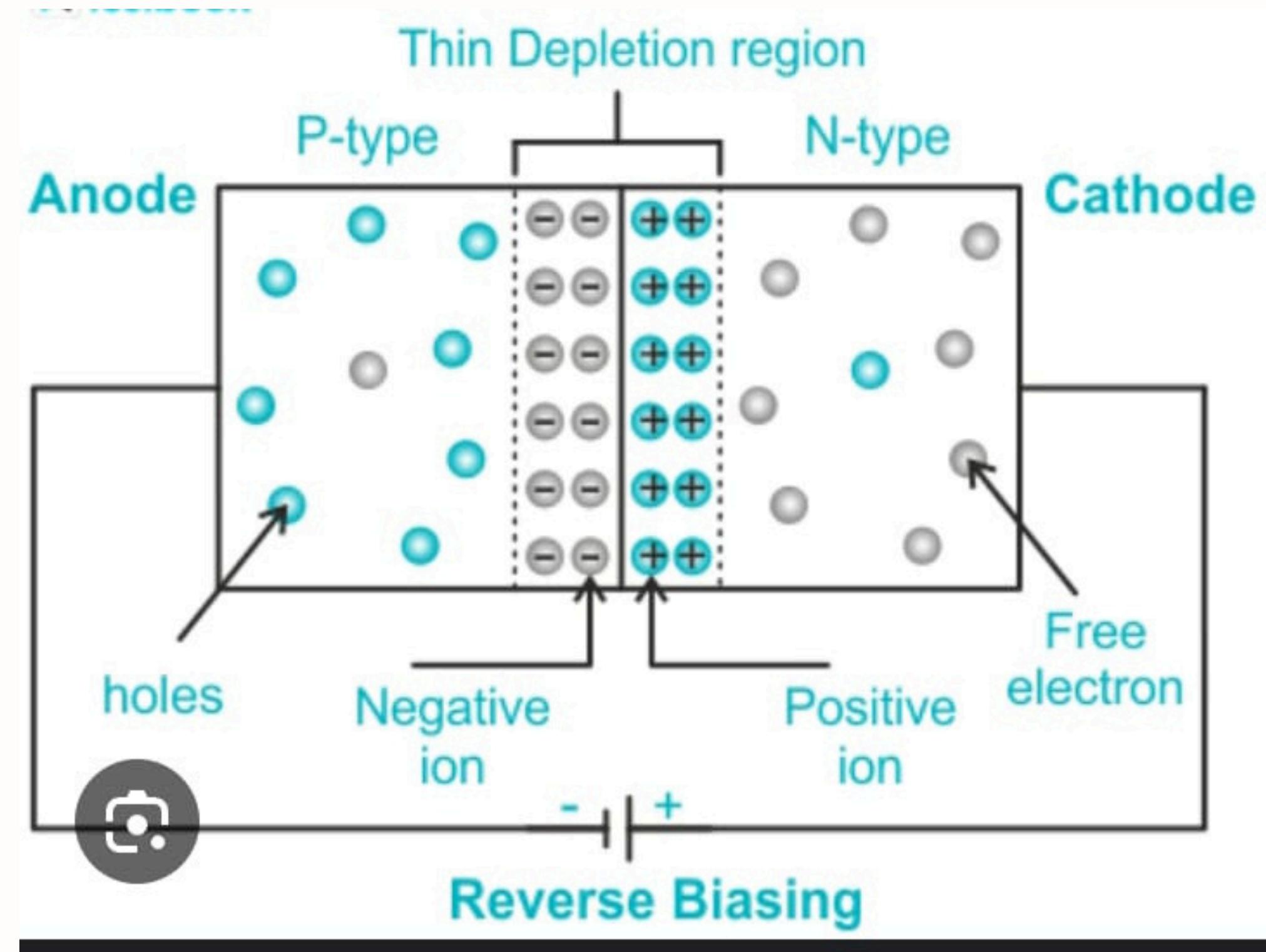
Zener diode is a special type of p-n junction diode that works in reverse bias.

It maintains a constant voltage (called Zener voltage) after breakdown



WORKING PRINCIPLE

- Forward Bias: Works like a normal diode.
- Reverse Bias: When voltage reaches Zener voltage (V_z), it conducts and keeps voltage constant.
- Used for voltage regulation and circuit protection

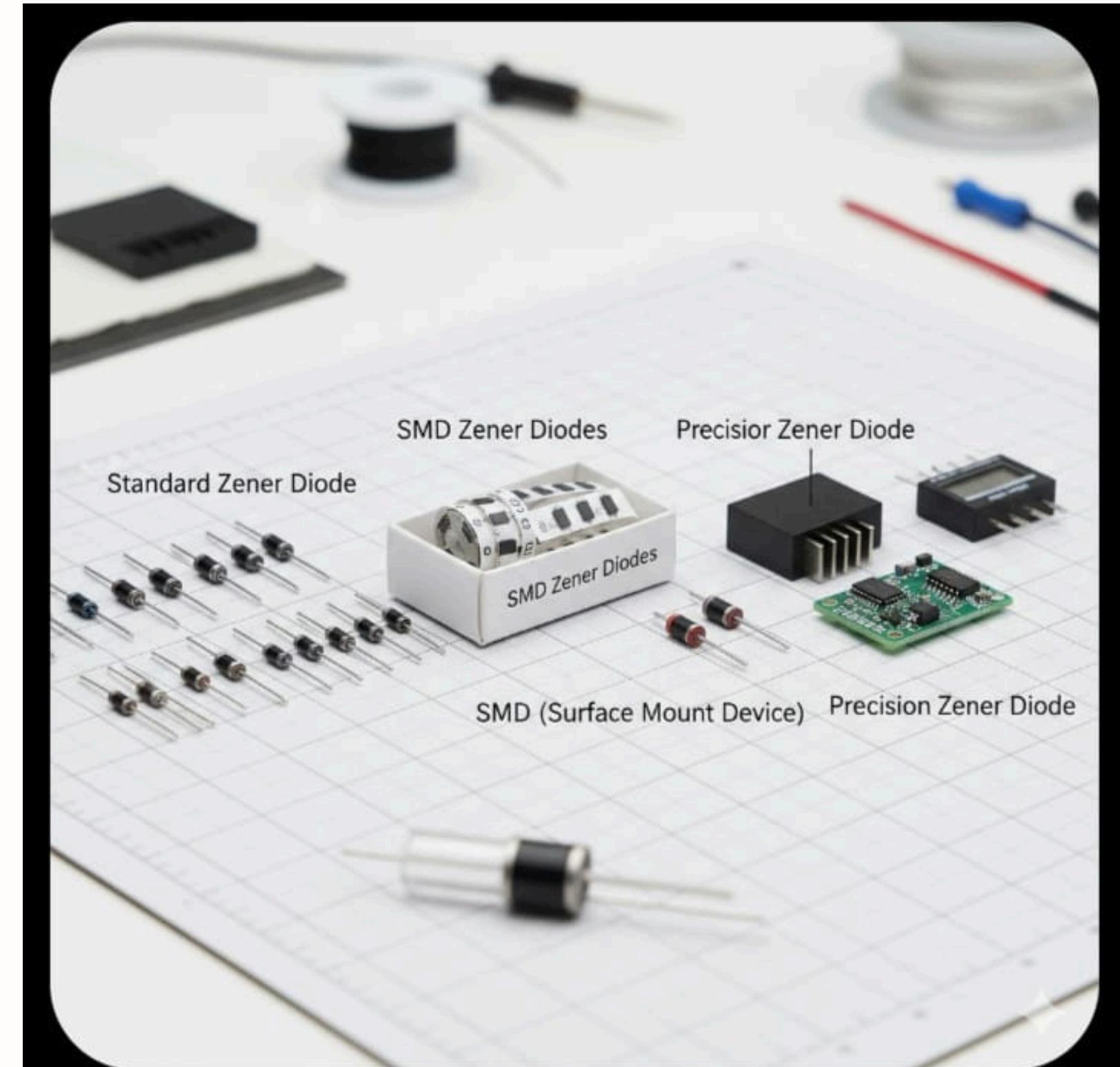


KEY FEATURES

- Fixed reverse breakdown voltage.
- Provides stable voltage output.
- Used as voltage regulator and protection device.
- Needs a series resistor to limit current

TYPES OF ZENNOR DIODE

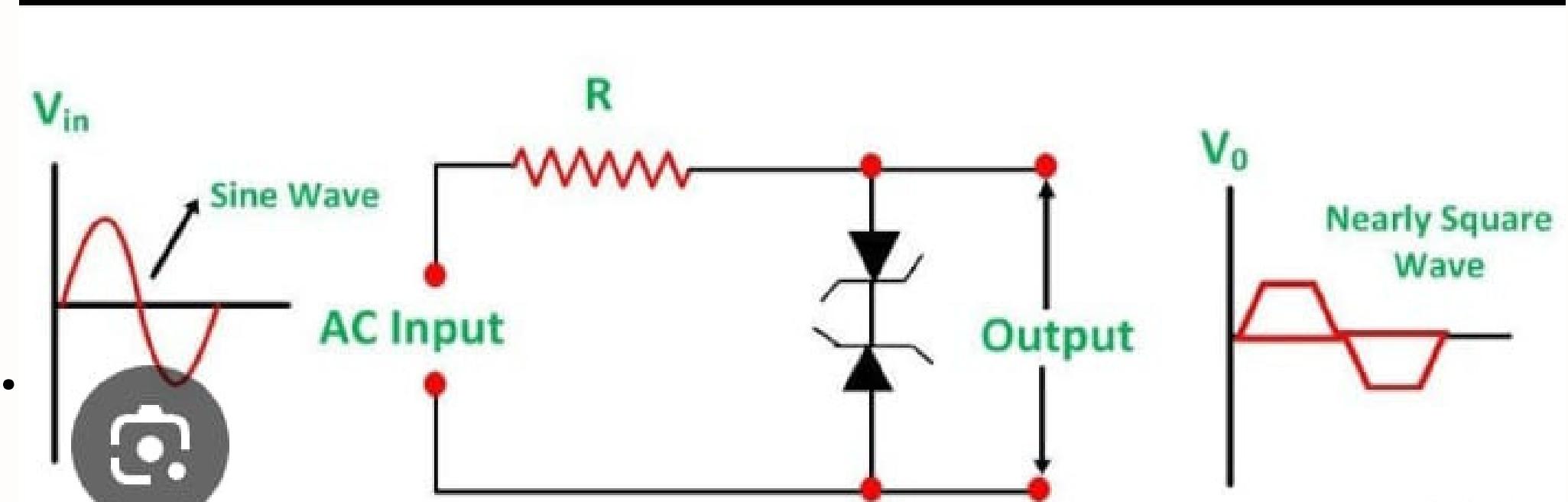
1. Standard Zener Diode – (Common in circuits)
2. SMD (Surface Mount) – Small and compact.
3. Precision Zener – Temperature stable.
4. Breakdown types: Zener (below 5.6V) & Avalanche (above 5.6V).



APPLICATIONS

Timmerman Industries

- Voltage regulators.
- Reference voltage sources.
- Over-voltage protection.
- Clipping and clamping circuits



IMPORTET POINTS

- Choose correct voltage & power rating ($P = V_z \times I_z$).
- Avoid excess current.
- Temperature affects breakdown voltage

SUMMARY

ZENNOR DIODE

Zener diode is simple yet powerful.
It keeps voltage stable and protects circuits.
Widely used in voltage regulators and electronics

THANK YOU