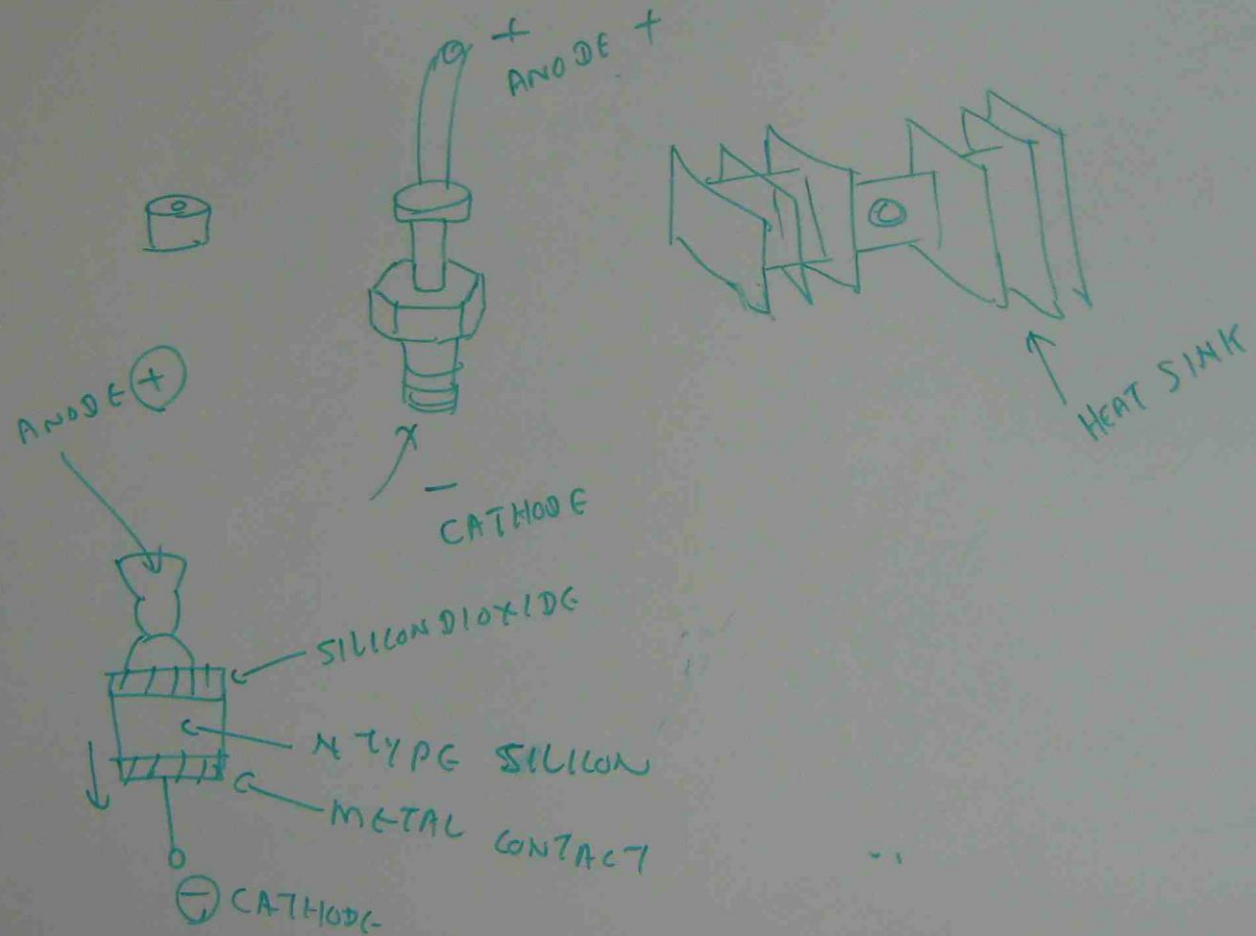


# POWER DIODES



Specially designed to handle the high power and

high temperature demands of some applications

- USE IN RECTIFICATION PROCESS
- USE SILICON - HIGHER CURRENT & TEMPERATURE RATING
- LOW FORWARD DIODE RESISTANCE

HEAT SINK

TO DRAW THE HEAT AWAY FROM THE ELEMENT.

CONSTRUCTION

METAL SEMI CONDUCTOR JUNCTION

N TYPE SEMI CONDUCTOR.

## METALS

MOLYBDENUM

PLATINUM

CHROMIUM

TUNGSTEN

## OPERATION

WHEN FORWARD BIAS VOLTAGE IS APPLIED, THE ELECTRONS IN 'N' TYPE SEMI CONDUCTOR MATERIAL IMMEDIATELY FLOWS IN TO THE ADJOINING METAL ESTABLISHING A HEAVY FLOW OF MAJORITY CARRIER.

SINCE THE INJECTED CARRIERS HAVE A VERY HIGH KINETIC ENERGY LEVEL COMPARED TO THE ELECTRONS OF METAL, THEY ARE CALLED HOT CARRIERS.

THE HEAVY FLOW OF ELECTRONS INTO A METAL CREATES A REGION NEAR THE JUNCTION SURFACE DEPLETED OF CARRIERS IN THE SILICON MATERIALS LIKE AS DEPLETION REGION IN P-N JUNCTION DIODE.

THE ADDITIONAL CARRIERS IN METAL ESTABLISH A NEGATIVE WALL IN THE METAL BOUNDARY BETWEEN TWO MATERIALS "SURFACE BARRIER"

