

Semiconductor Switching Devices

Classifications: Summary

1. Uncontrolled turn on and off (e.g. diode)
2. Controlled turn on, uncontrolled turn off (e.g. SCR)
3. Controlled turn on and off (e.g. BJT, MOSFET, GTO, SITH, IGBT, SIT, MCT)
4. Continuous gate signal requirement (BJT, MOSFET, IGBT, SIT)
5. Pulse gate signal requirement (e.g. SCR, GTO, MCT)
6. Bipolar voltage blocking capability (e.g. SCR, GTO)
7. Unipolar voltage blocking capability (e.g. BJT, MOSFET, IGBT, MCT)
8. Bidirectional current capability (TRIAC, RCT)
9. Unidirectional current capability (SCR, GTO, BJT, MOSFET, MCT, IGBT, SITH, SIT, diode)

RCT – Reverse Conducting Thyristor

SIT – Static Induction Transistor

SITH – Static Induction Thyristor

IGBT – Insulated Gate Bipolar Transistor

MCT – Mosfet Controlled Thyristor

GTO – Gate turn-off Thyristor