SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

19EE504 - SPECIAL ELECTRICAL MACHINES
UNIT – 4
SWITCHED RELUCTANCE MOTOR
POWER CONTROLLERS OF SWITCHED RELUCTANCEMOTOR

Basic Requirements of power controllers circuits

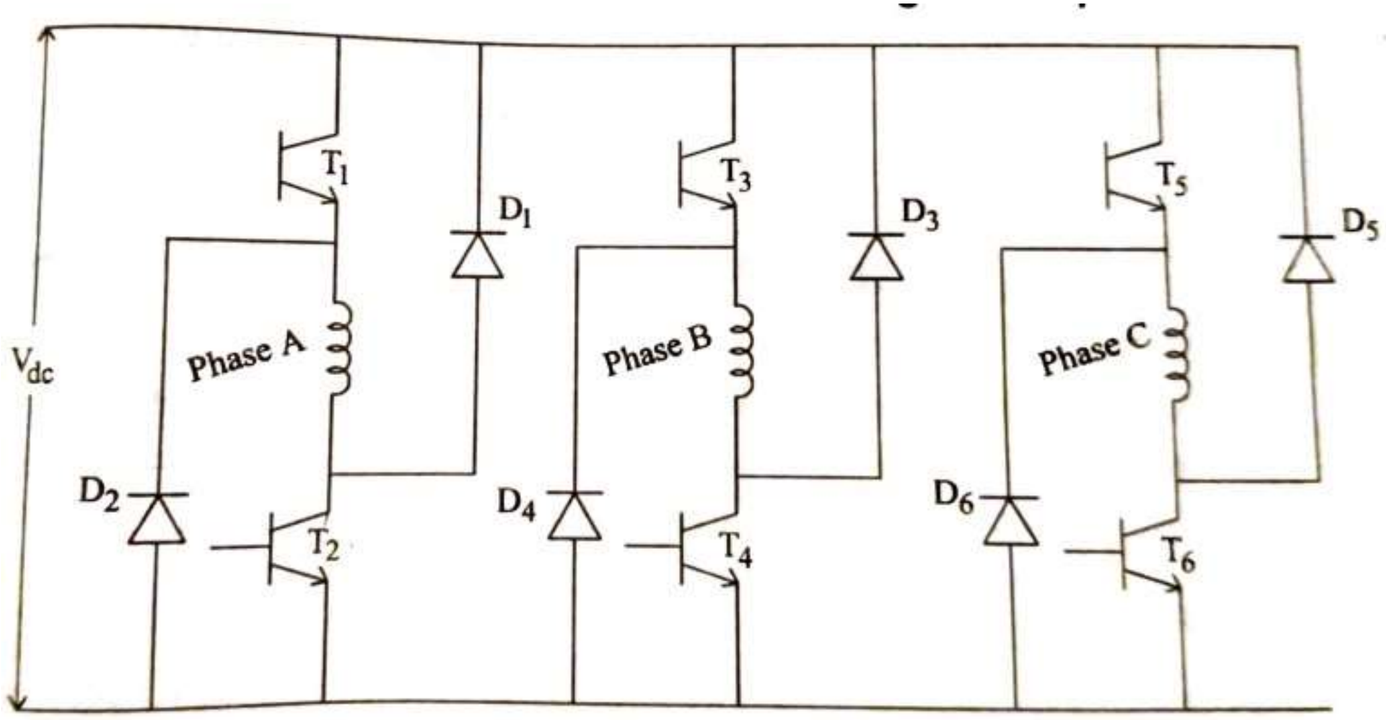
- Each phase of SRM should be able to conduct independent of the other phases.
- It should be able to freewheel during the chopping period to reduce the switching frequency.
- The converter should be able to utilise the demagnetisation energy into useful way of feeding it back to the source.
- It should be able to excite the phase before it steps into monitoring region if operated as generator and it should demagnetise the phase before it is operated as motor.

Types of Power Controllers of SRM

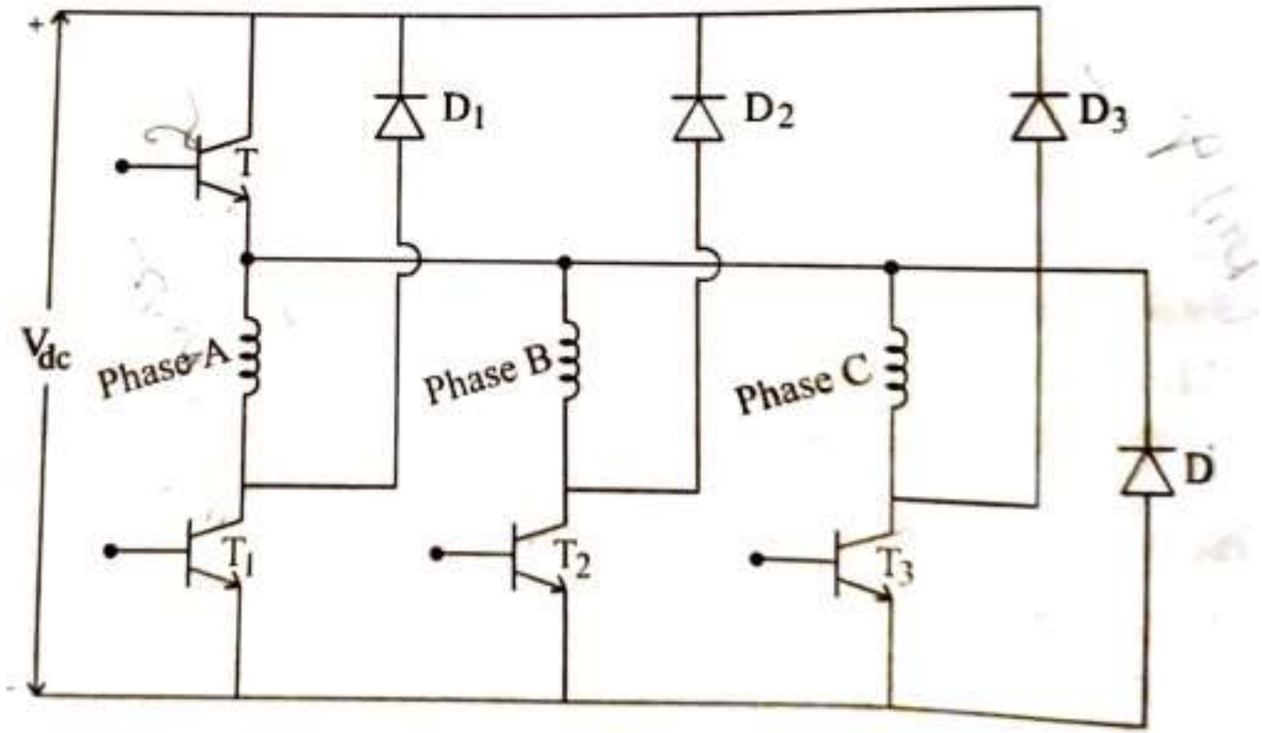
There are five types of power controllers or switching circuits of SRM. They are

- Two power semiconductor switching device per phase
- (n+1) switching device and (n+1) diodes per phase
- Split DC supply converter
- C-Dump Converter circuit
- Phase winding Using Bifilar wires

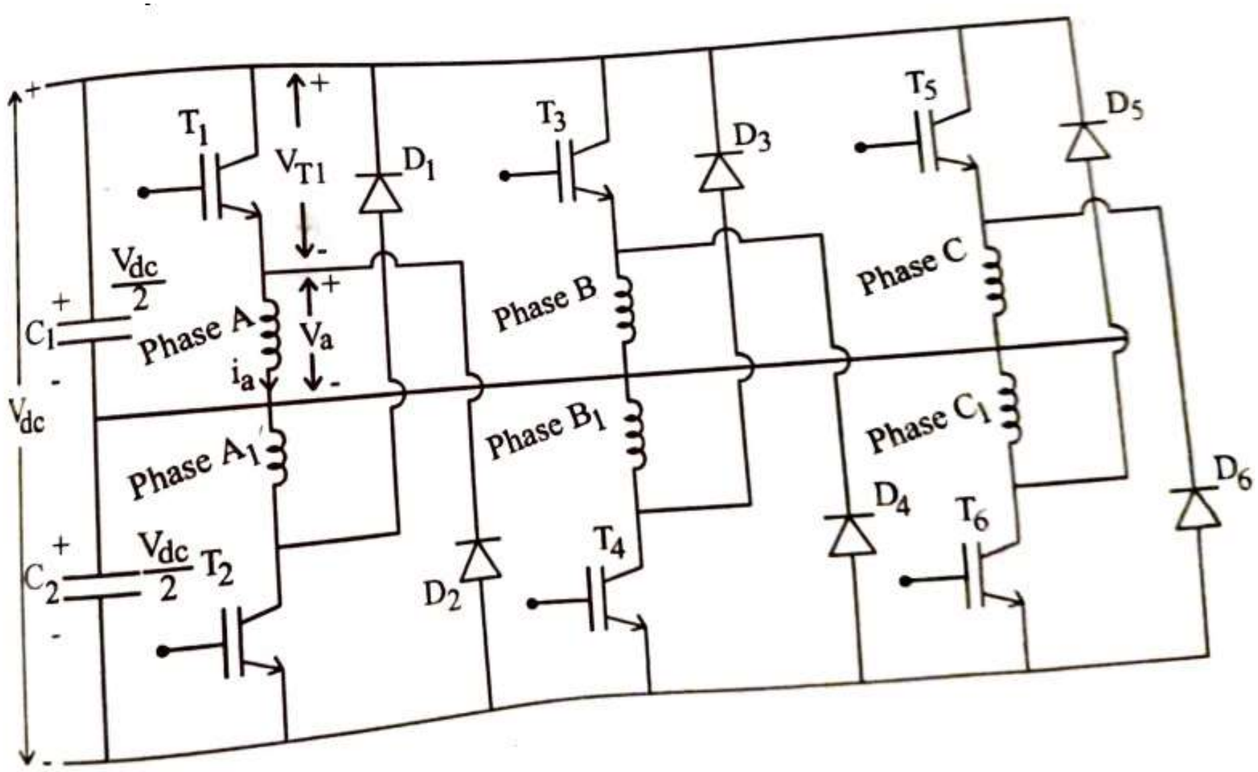
Two power semiconductor switching device per phase



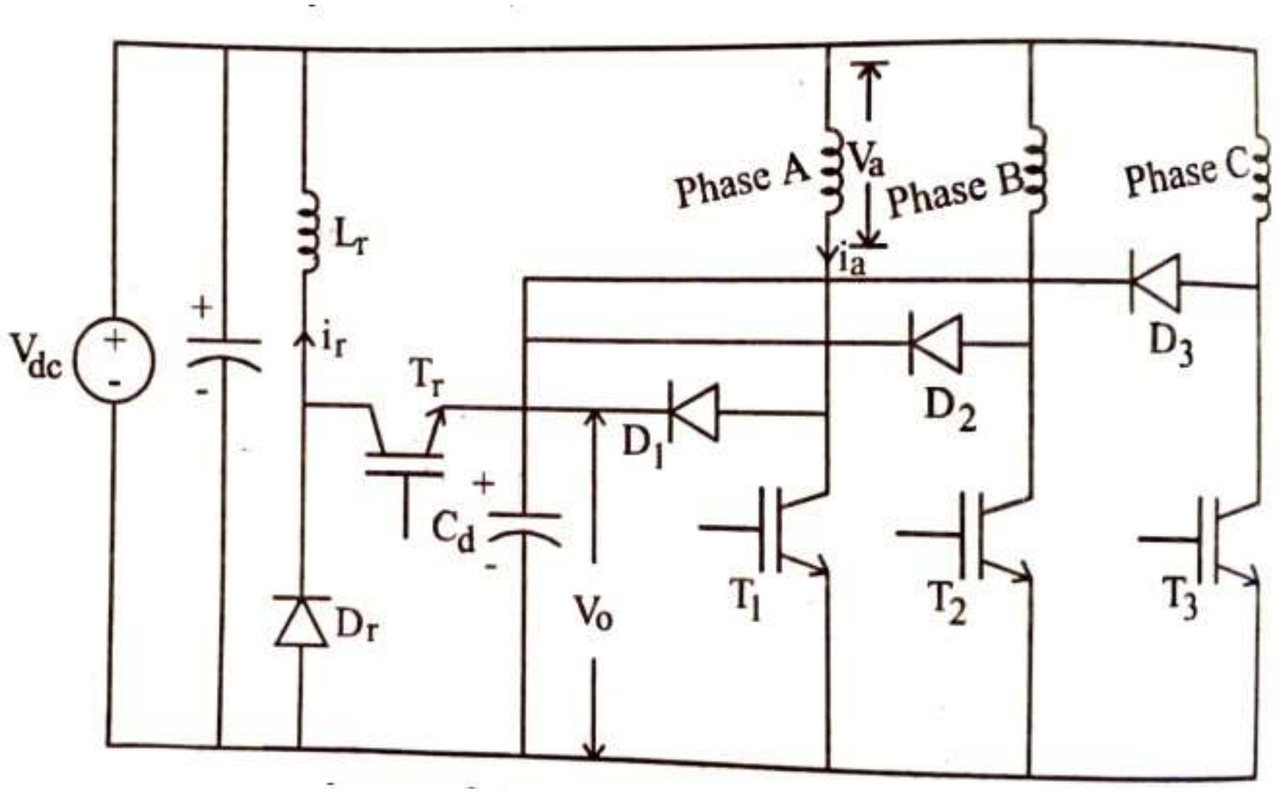
(n+1) switching device and (n+1) diodes per phase



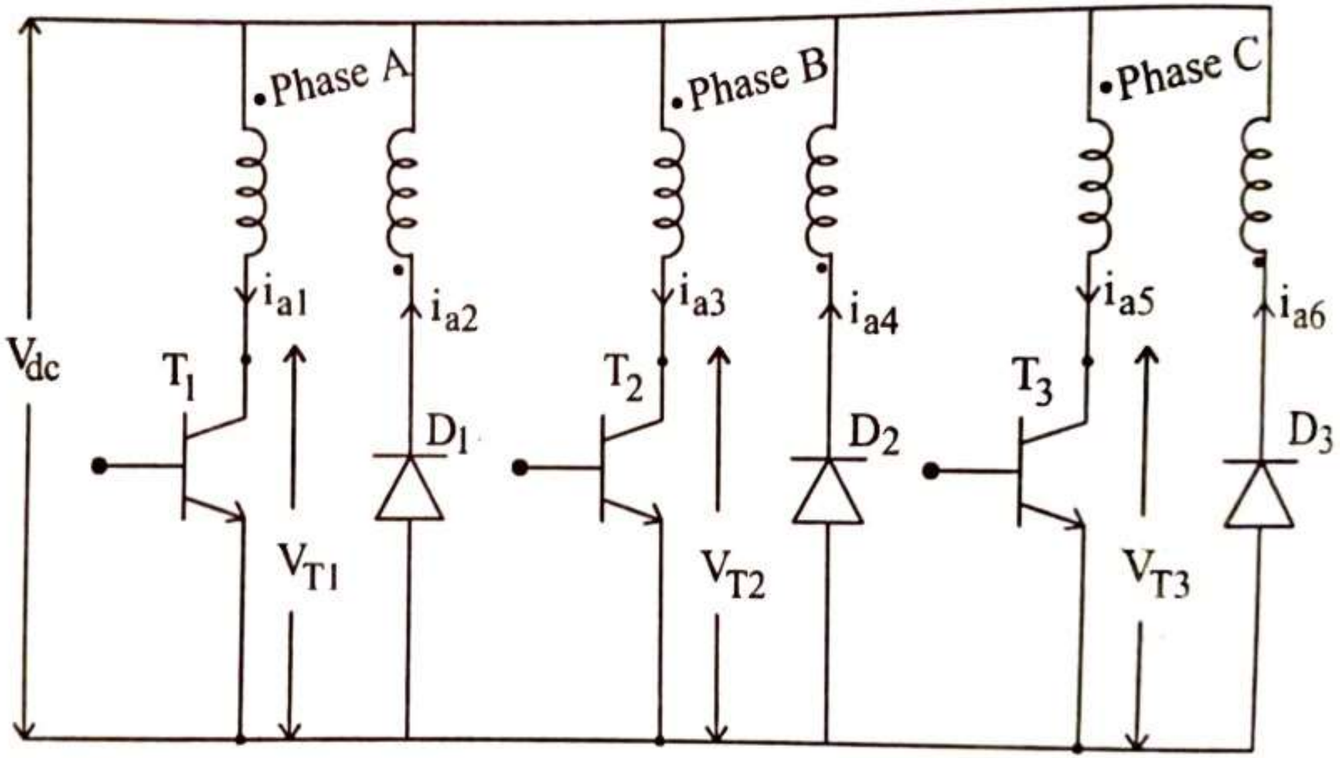
Split DC supply converter



C-Dump Converter circuit



Phase winding Using Bifilar wires




Thank you