

Advanced Power Electronics

Resonant Pulse Converters



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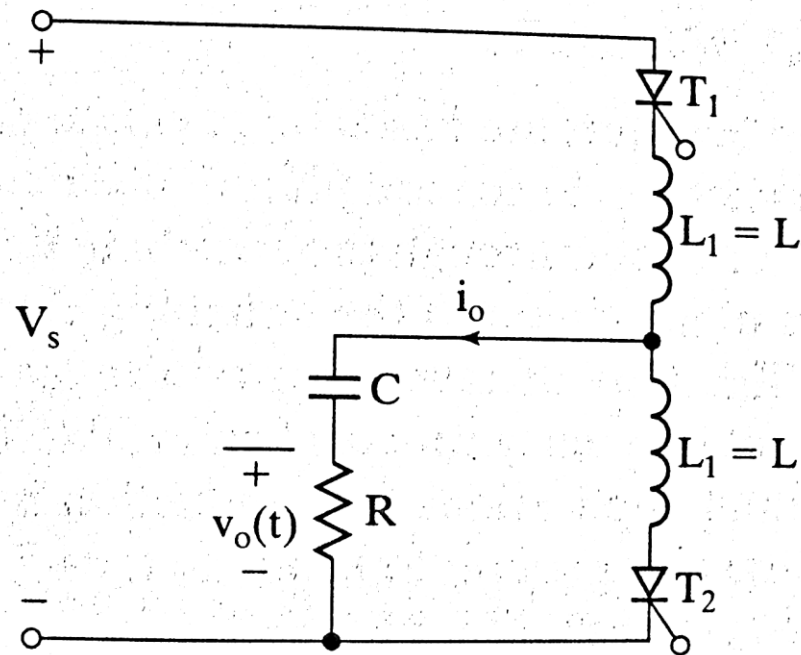
Vishal D Devdhar

Lecturer

Electrical Engineering Department

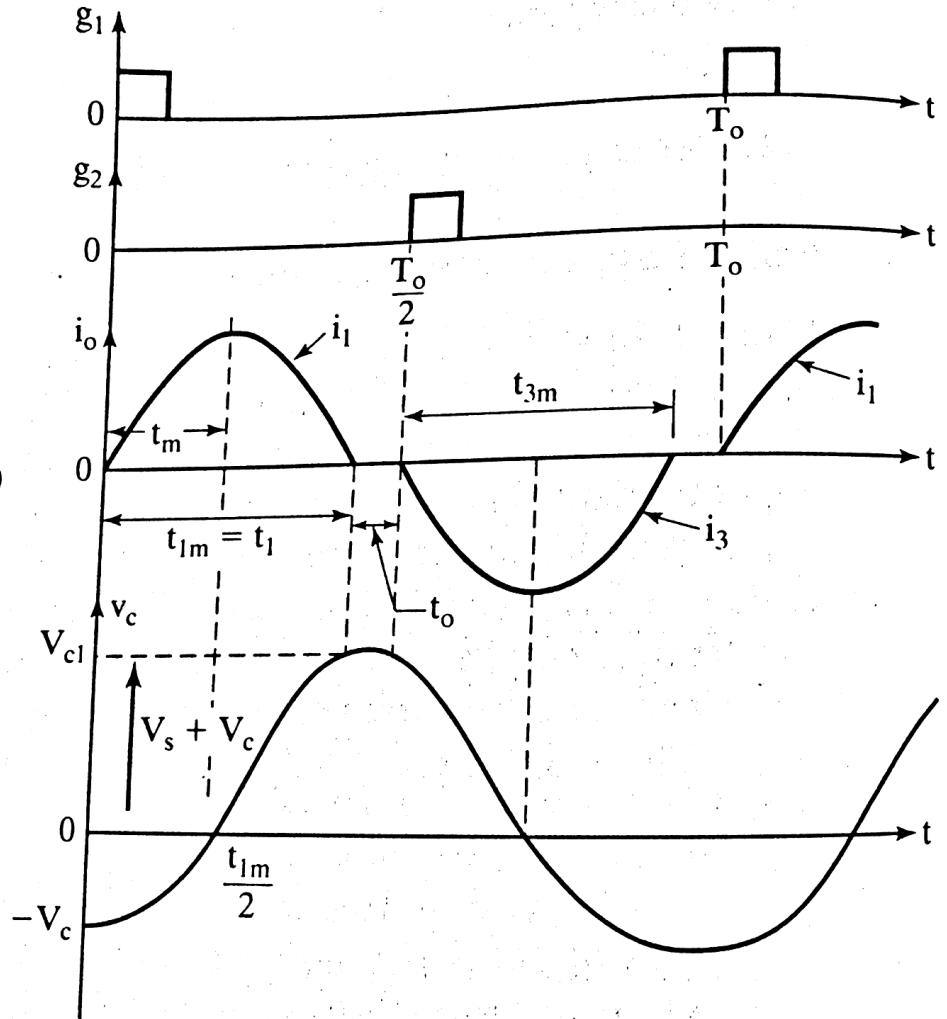
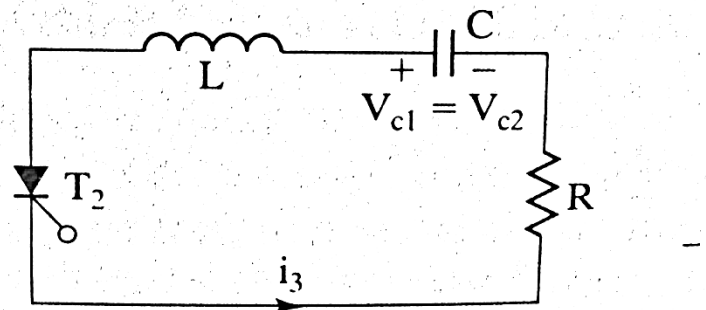
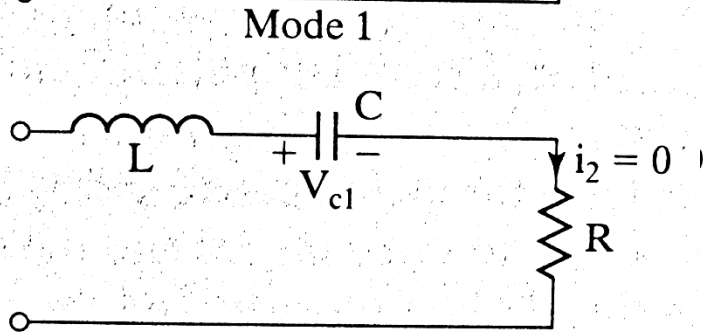
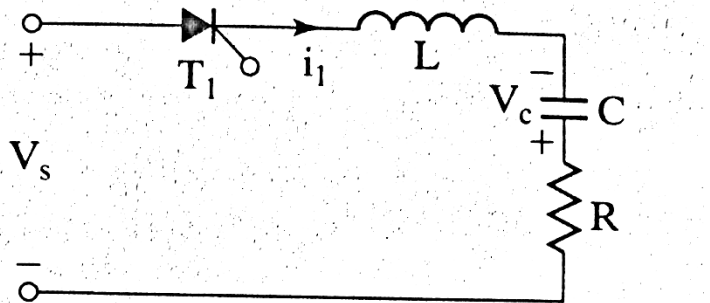
Government Polytechnic, Rajkot

Series Resonant Inverter

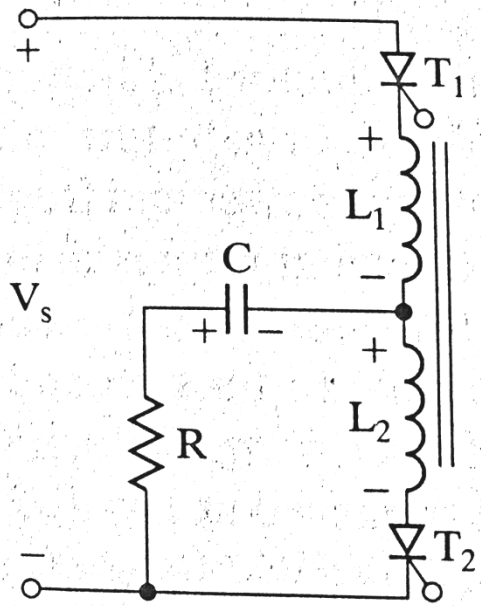


(a) Circuit

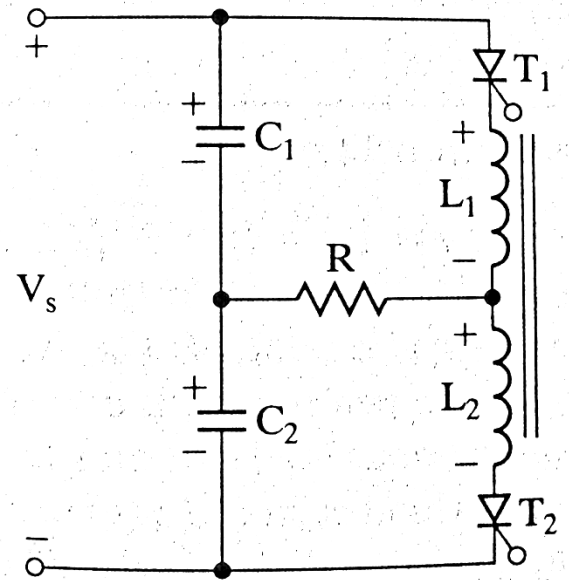
Series Resonant Inverter



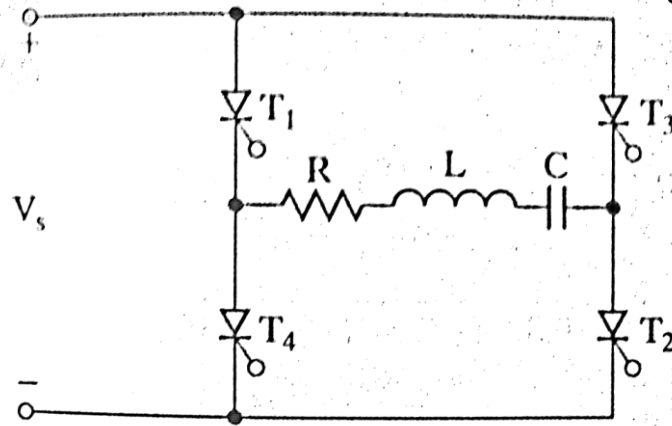
Series Resonant Inverter



Coupled Inductor Type

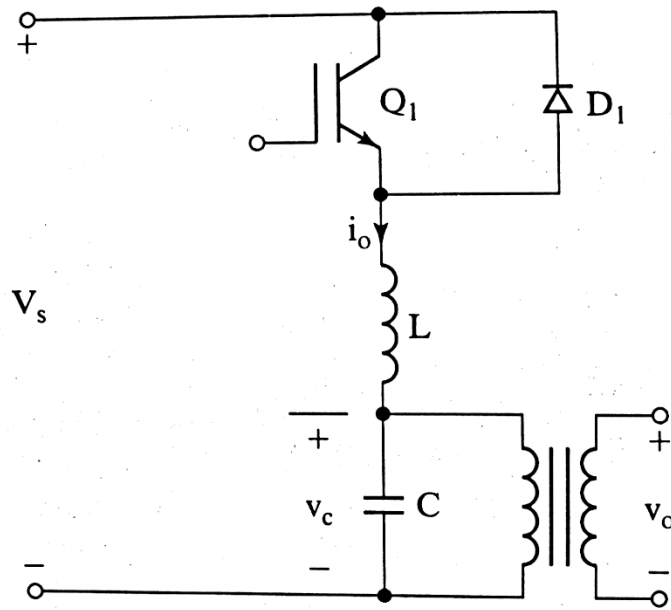


Half Bridge Type

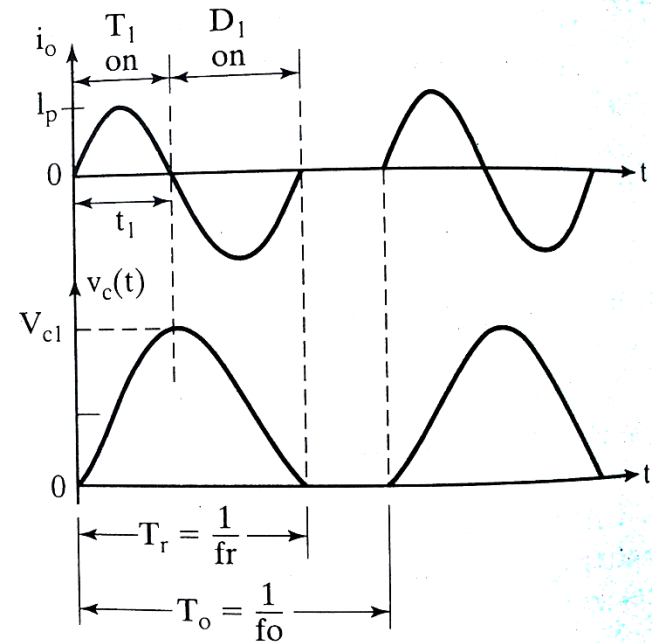


Full Bridge Type

Series Resonant Inverter



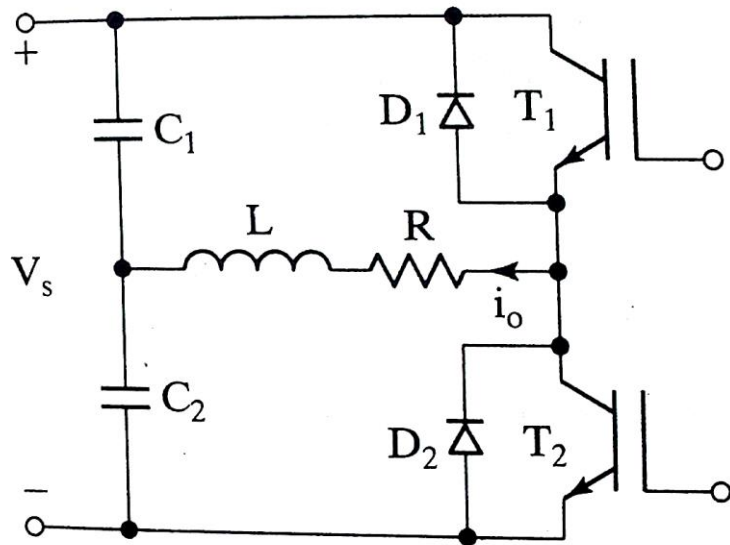
(a) Circuit



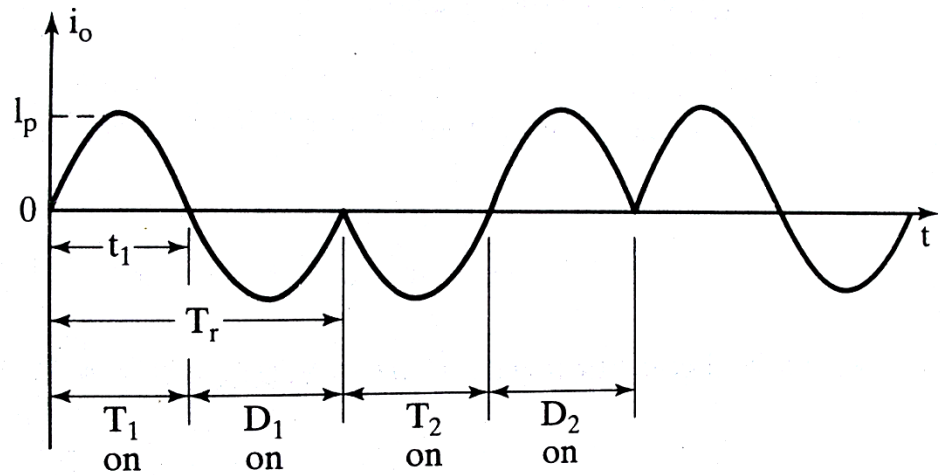
(b) Waveforms

Series Inverter with Bidirectional Switch

Series Resonant Inverter



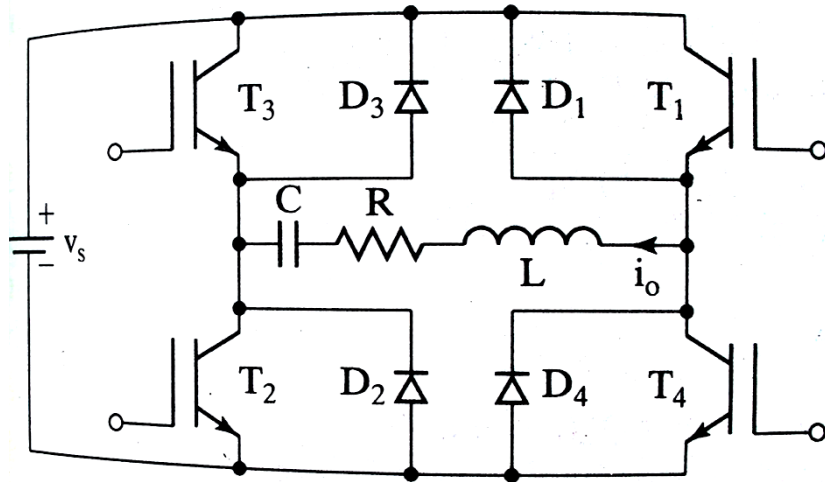
(a) Circuit



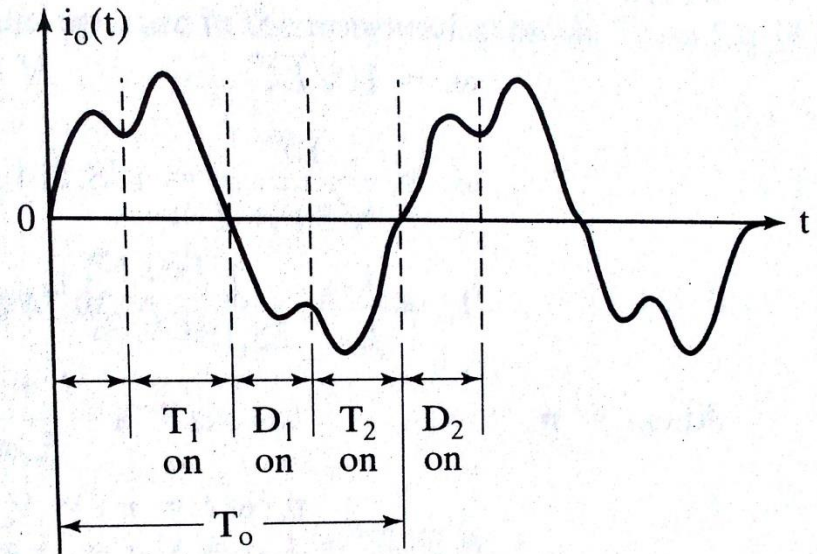
(b) Waveforms

Half Bridge Series Inverter with Bidirectional Switch

Series Resonant Inverter



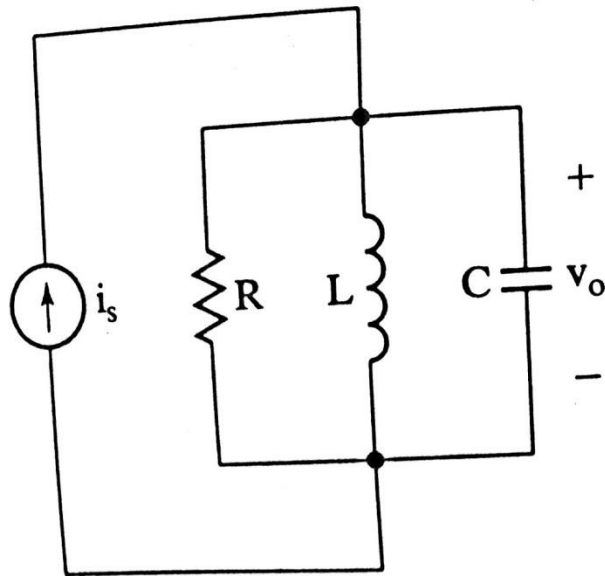
(a) Circuit



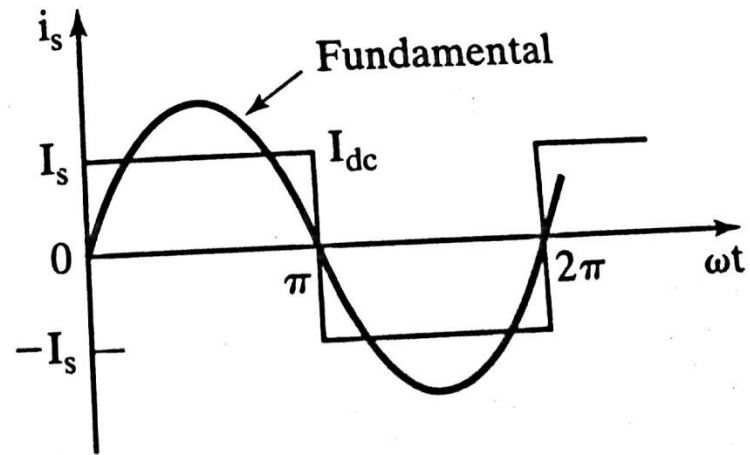
(b) Circuit

Full Bridge Series Inverter with Bidirectional Switch

Parallel Resonant Inverter

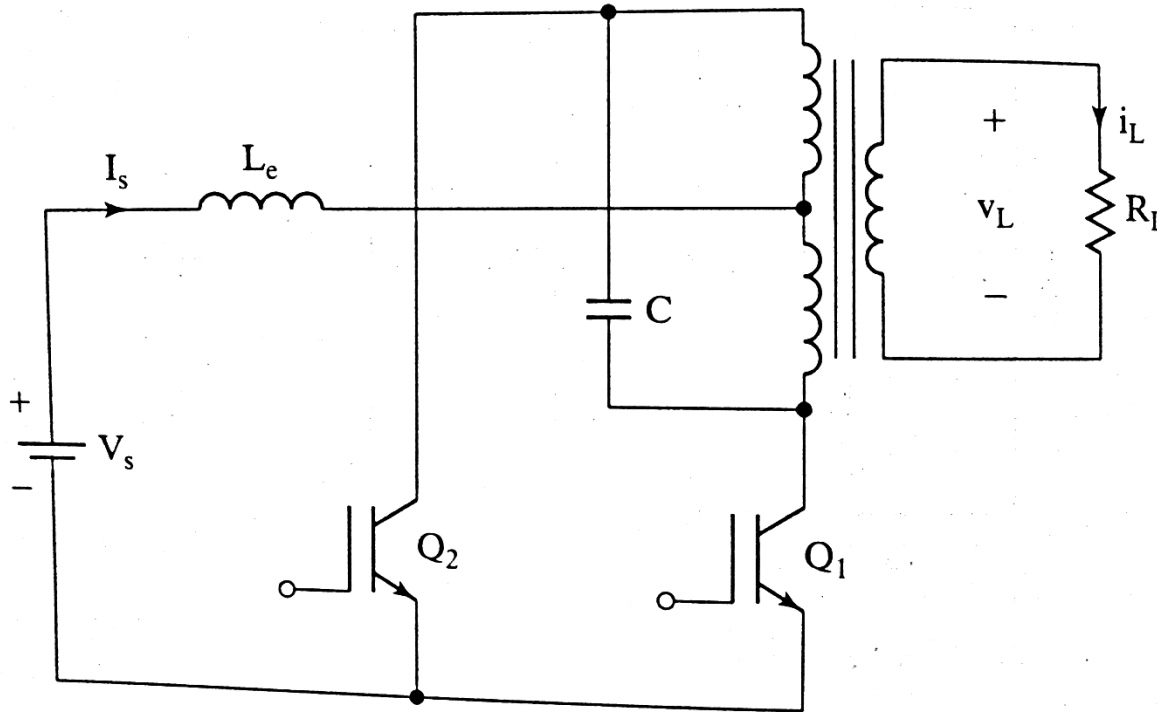


(a) Parallel circuit



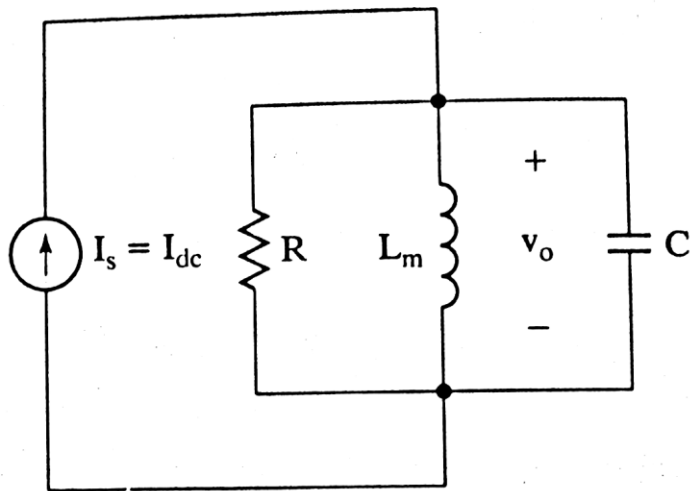
(b) Input voltage

Parallel Resonant Inverter

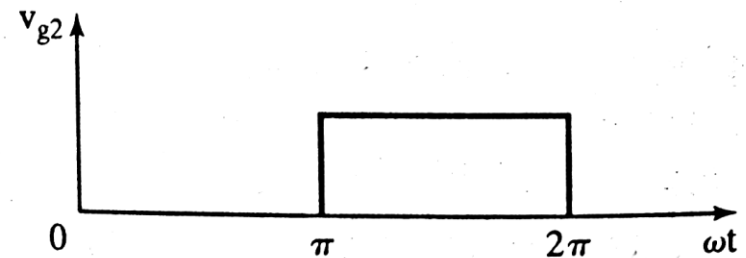
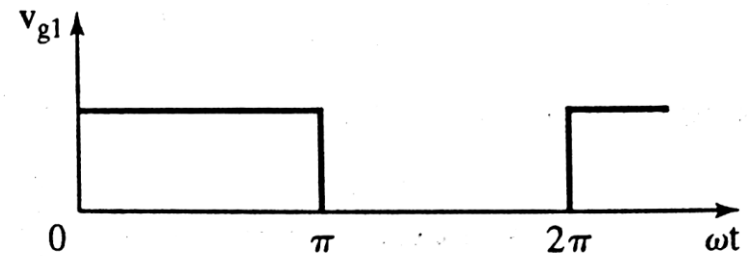


(a) Circuit

Parallel Resonant Inverter

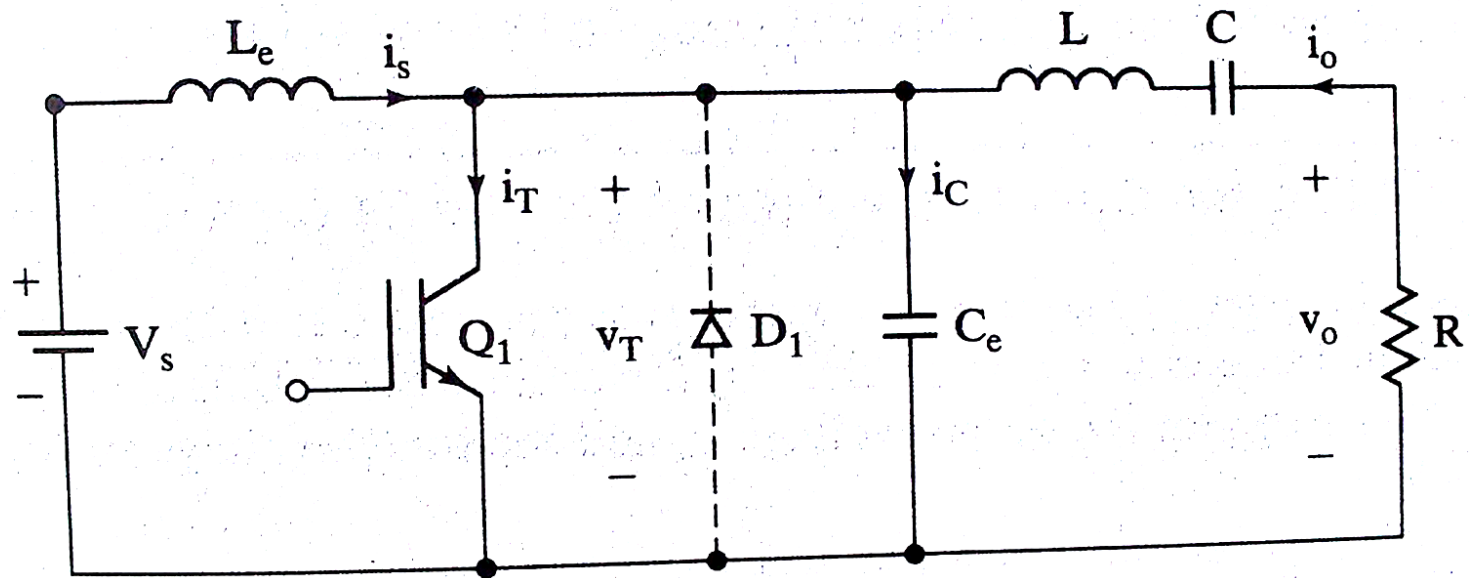


(b) Equivalent circuit



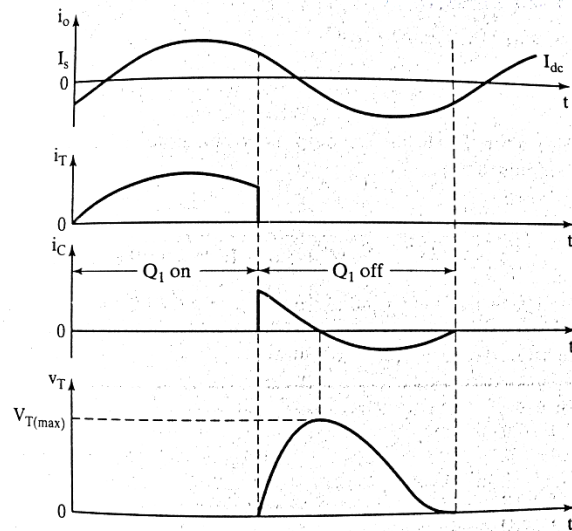
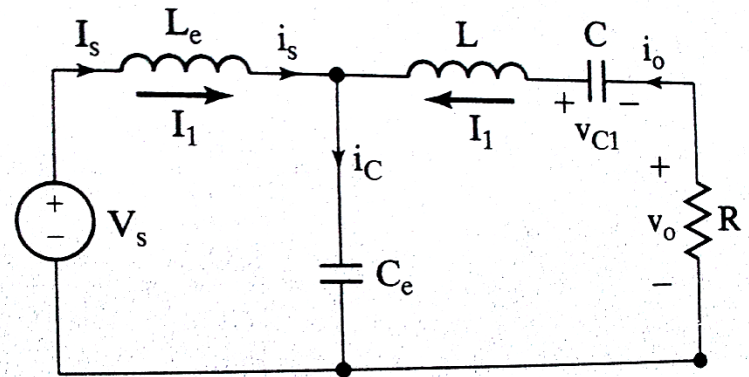
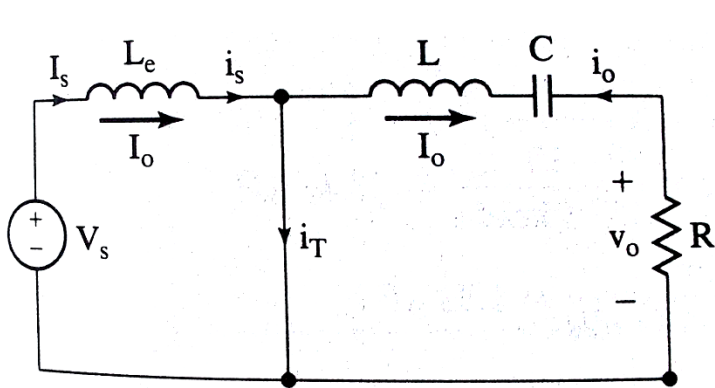
(c) Gate signals

Class E Resonant Inverter



(a) Circuit

Class E Resonant Inverter



(c) Waveforms