IIT ROORKEE

NPTEL ONLINE CERTIFICATION COURSE

Microelectronics: Devices to Circuits

Simple BJT inverter and Second Order Effects

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Outline

- Simple BJT Inverter
- Second order effects
- Recapitulation

Simple BJT Inverter

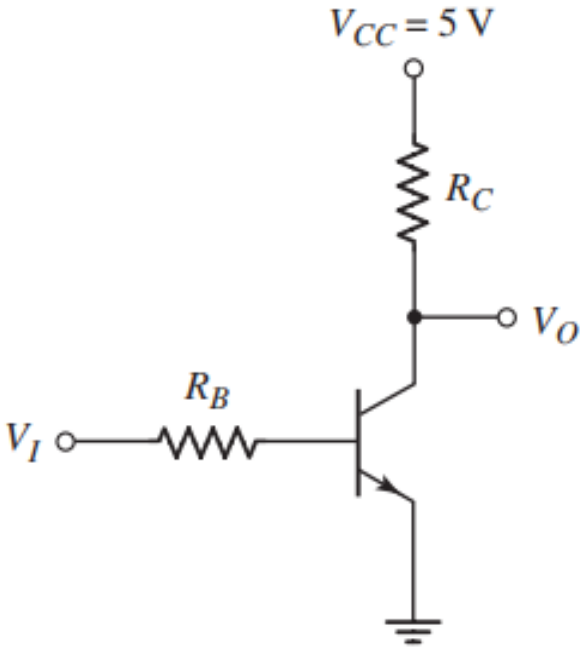


Fig.1.BJT Inverter

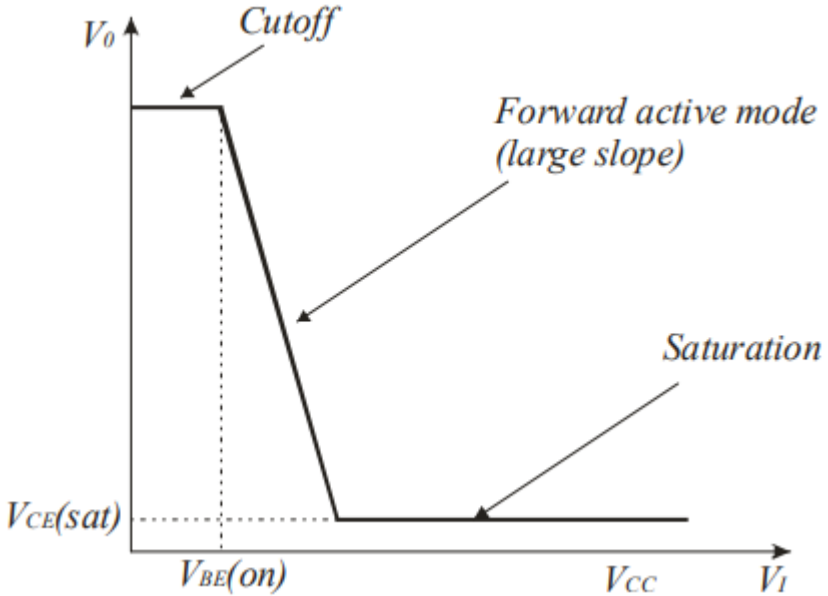


Fig.2.VTC of BJT Inverter

Source: Microelectronics Circuit Analysis and Design Donald A. Neamen, Fourth edition

- If the input Vi is approximately zero volts, the transistor is cutoff and the output V0 is high and equal to Vcc.
- If the input is high and equal to Vcc, the transistor can be driven into saturation, in which case output is low and equal to Vce (Sat).

Input Voltage (V)	Output voltage (V)
0	Vcc
Vcc	Vce

Thank You