TRANSISTOR BIASING WITH EMITTER FEEDBACK

Lecture-36

TDC PART -3
PAPER 6(GROUP B)
Chapter -6

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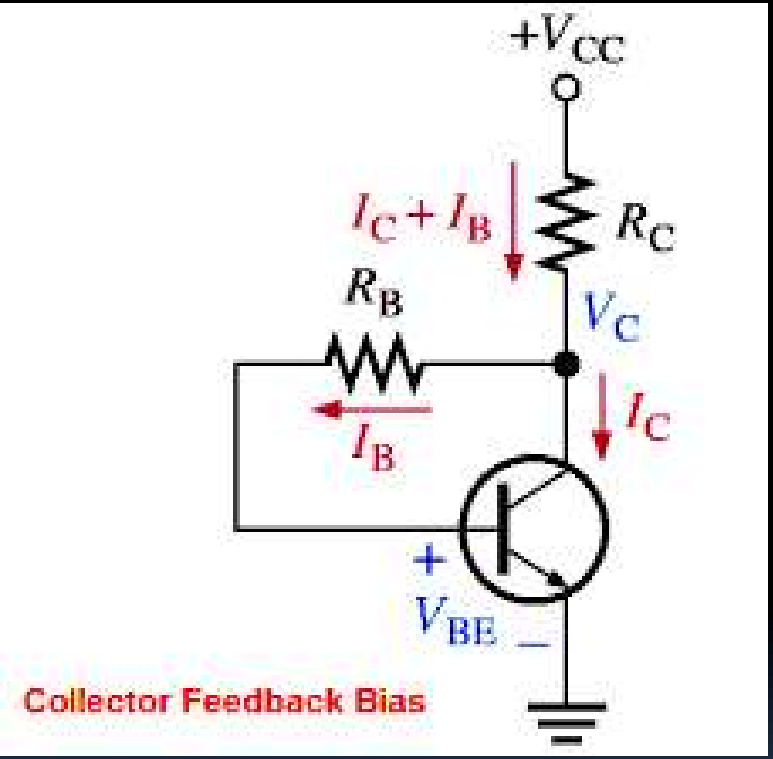
Transistor biasing with emitter feedback

- This type of transistor biasing configuration, often called self-emitter biasing, uses both emitter and base-collector feedback to stabilize the collector current even further.
- This is because resistors $R_1$and R_2 as well as the base-emitter junction of the transistor are all effectively connected in series with the supply voltage, V.


+VCC
IC + IB
RC
RB
VC
IC
IB
+
VBE
–
Collector Feedback Bias

DEMERITS

- The downside of this emitter feedback configuration is that it reduces the output gain due to the base resistor connection.

- The collector voltage determines the current flowing through the feedback resistor, R_1 producing what is called "degenerative feedback".

- The polarity of this voltage reverse biases the base-emitter junction, $I_{(current)}$ automatically decrease. Therefore the emitter current increase less than it would have done had there been no self biasing resistor.

USES

- This type of transistor biasing configuration works best at relatively low power supply voltages due to the configuration of “R”resistance