

UNIT-2>>MULTISTAGE AMPLIFIERS

CLASS>>II_{ND} YEAR, IV SEM

SUBJECT-ANALOG CIRCUITS

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**TOPIC>>POWER EFFECIENCY OF CLASS B
Amplifier**

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POWER EFFECIENCY OF CLASS B

:-

To calculate the power-conversion efficiency,

η , of the class B stage, we neglect the crossover distortion and consider the case of an output sinusoid of peak amplitude V_o

The average load power will be

$$P_L = 1V_o^2 / 2R_L$$

The current drawn from each supply will consist of half sine-waves of peak amplitude. Thus the average current drawn from each of the power supplies will be $V_o / \pi R_L$

The average power drawn from each of the two power supplies will be the same,

$$P_S = 1V_o / \pi R_L \cdot V_{CC}$$

and the total supply will be

$$P_S = 2V_o / \pi R_L \cdot V_{CC}$$

Thus the efficiency will be given by

$$\eta = 1V_o / \pi R_L \cdot V_{CC} / 2V_o / \pi R_L \cdot V_{CC}$$

The maximum efficiency is obtained when V_o is at its maximum.