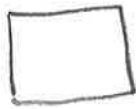


B&B 1.13



$$\omega_0 = 3 \text{ GHz}$$

A) When excited (by external source) power falls by factor of 2 over range of 80 kHz on either side of peak. What is Q of cavity?

B) If excited and left to itself, how fast will EM energy decay over time?

$$A) \beta = \Delta\omega = 160 \text{ kHz}$$

$$T = \frac{1}{\beta} = 6.25 \text{ } \mu\text{sec}$$

$$B) Q = \frac{\omega_0}{\beta} = 18,750$$

