Sinusoidal Analysis (Ch 19)

Sinusoidal Analysis: Comments

- Generally most accurate when operating near resonance with a high $Q$
- Effective quality factor $Q_e$ depends not only on resonant tank, but also on loading
- Analysis neglects switching intervals; can only predict where ZVS cannot be obtained

Fig. 2.14. Comparison of exact and approximate series resonant converter characteristics, below resonance.
AC Link Waveforms

Switch Network Sinusoidal Analysis
Input Current

Switch Network Equivalent Circuit