Power Spectrum
Limitations of Phasor Analysis
Limitations of Phasor Analysis
Frequency Response

\[ v_i(t) \] circuit diagram

- Re
- Im

\[ v_o(t) \]
Frequency Response
Bode Plot – Frequency Response

![Bode Plot Image]
Fourier Series

Assume we have some function $f(t)$ which is periodic with period $T_0 = \frac{2\pi}{\omega_0}$

$$f(t) = a_0 + \sum_{k=1}^{\infty} a_k \cos(k\omega_0 t) + b_k \sin(k\omega_0 t)$$

$f(t)$ can be expressed this way if

1. $f(t)$ is single-valued
2. $\int_{t_0}^{t_0+T_0} |f(t)| \, dt$ exists
3. $f(t)$ had finite discontinuities and max/min per period