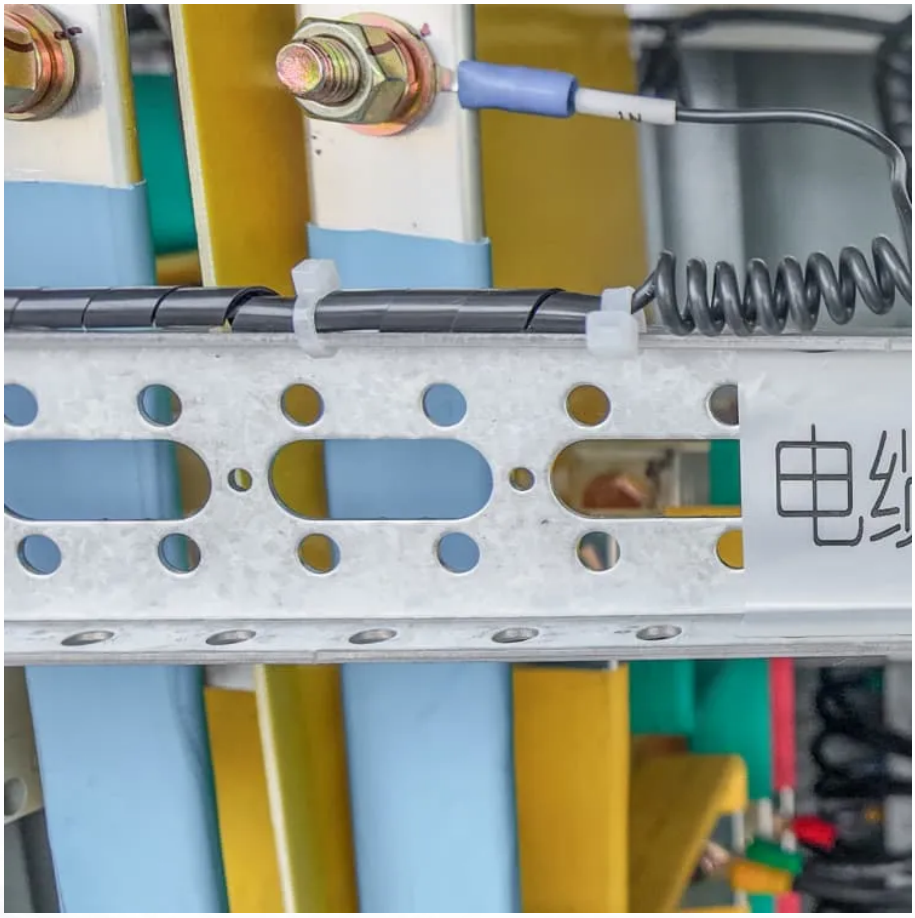
WALMER ENERGY

Phase compensation of base station power supply



Overview

How does phase compensation work?

In this system, the phase compensation is configured by connecting resistor RITH and capacitor CITH in series with the output of the error amplifier . Rea represents the output resistance of the error amplifier, Vref is the reference voltage, and VFB is the feedback reference voltage (Figure 1). Figure 1. Phase compensation circuit diagram 2.

How to get maximum phase boost?

To give the maximum amount of phase boost, place the error-amplifier zero, a decade below the target crossover frequency. An alternate strategy is to place the error-amplifier zero at the load pole of which will give you an equivalent result. The high-frequency pole, should cancel the ESR zero of the output capacitor.

What is a power stage and error amplifier?

Figure 1 contains a power stage and an error amplifier. The power stage contains all of the magnetics and power switches, as well as a pulse-width modulated (PWM) controller. The error amplifier provides the feedback mechanism and compensation. A voltage divider Figure connected to the 3.

What is a current-mode Buck Power Stage?

The current-mode buck power stage exhibits a single pole at ωP The current-mode boost is similar to the current-mode buck, but the current-mode boost exhibits a right-half-plane zero in the transfer function. This is because energy is stored in the inductor during the switch on-time and delivered to the output during the off-time.

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