Circuit Component Estimation in Buck Converter Using Efficiency Curve

Shotaro Sakurai, Nobukazu Tsukiji, Yasunori Kobori, Haruo Kobayashi

Division of Electronics and Informatics, Gunma University

Implemented Power Supply

Measured Efficiency Curve

Circuit Components

Problem

Can NOT measure directly circuit component values for phase compensation design.

Purpose of this work

Estimate component values from measured efficiency curve.
Implemented power supply

Component values

Measured efficiency curve

Efficiency $\eta [%]$

Output current [A]