

Charge Pump Compensation for Cable Drop

■ Description

- ▶ For power converters with a cable between the output and the load, the voltage at the load varies with load current because of the voltage drop across the resistance of the cable
- ▶ A charge pump circuit operating from a bias winding generates a compensation signal which is an indirect measure of the load current that linearly increases in negative magnitude with the output current. The compensation signal I_{CT} changes the effective ratio of the voltage divider at the control terminal (C) so the power converter increases the output voltage V_{OUT}

■ Benefits

- ▶ Tighter regulation for applications with outputs connected to a cable.
- ▶ **Could be used with:** Primary side controlled flyback converters

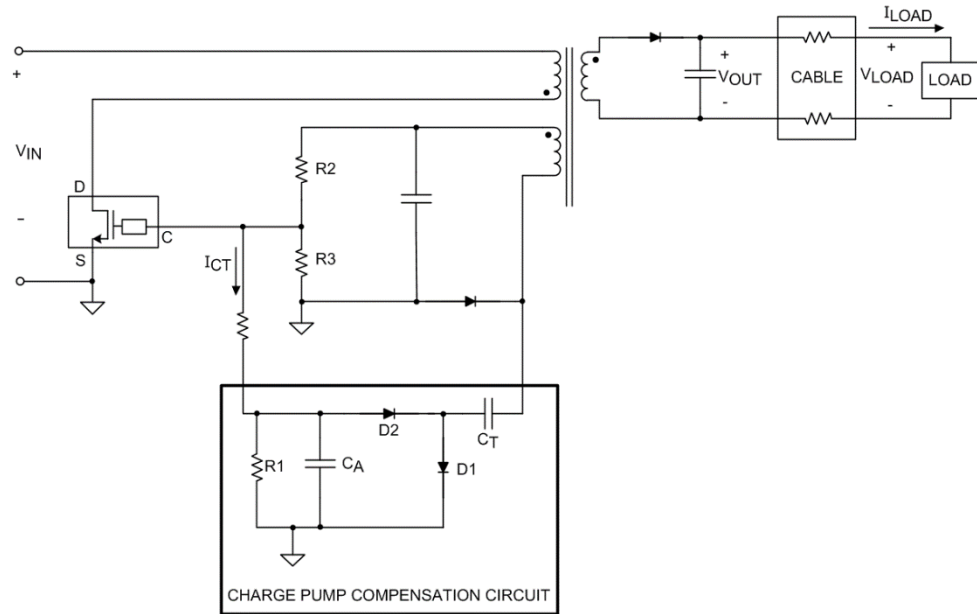


Figure 1. The charge pump circuit removes current from the control terminal (C), thereby forcing the power converter to regulate at a higher voltage.