

Wide Range Synchronous Buck Controller

Description

The KF8436 is a synchronous step down regulator from a high voltage input supply. Operating with an input voltage range from 10V to 30V, the KF8436 achieves 2.1A continuous output current with excellent load and line regulation. The switching frequency is programmable from 150 kHz to 500 kHz and the synchronous architecture provides for highly efficient designs. Current mode operation provides fast transient response and eases loop stabilization.

The KF8436 requires a minimum number of readily available standard external components. Other features include cable compensation, programmable current limit and thermal shutdown.

The KF8436 converters are available in the industry standard SOP-8L packages.

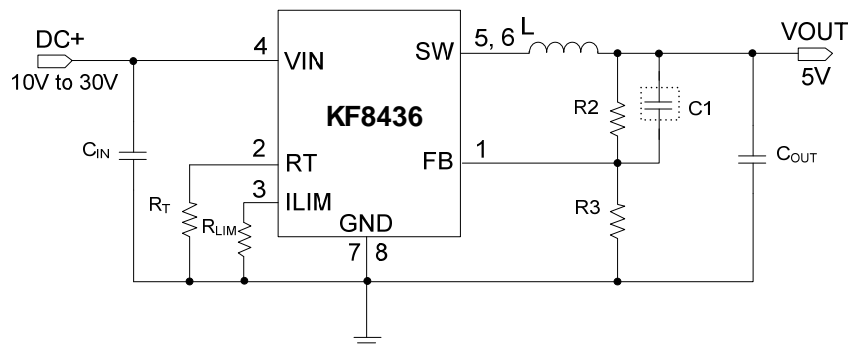
Features

- Wide Input Voltage Range: 10V to 30V
- Up to 93% Efficiency
- Programmable Switching Frequency up to up to 500kHz
- No Loop Compensation Required
- Programmable current limit
- Cable Compensation from 0Ω to 0.3Ω
- Thermal Shutdown
- Available in SOP-8L Package

Applications

- Car Charger / Adaptor
- Pre-Regulator for Linear Regulators
- Distributed Power Systems
- Battery Charger

Typical Application Circuit



* The output voltage is set by R2 and R3: $V_{OUT} = 1.21V \cdot [1 + (R2/R3)]$.

Pin Assignment and Description

| TOP VIEW | | PIN | NAME | DESCRIPTION |
|----------|---|------|------|----------------------|
| 8 | 7 | 1 | FB | Feedback |
| 6 | 5 | 2 | RT | Frequency Setting |
| | | 3 | ILIM | Current Limit |
| | | 4 | VIN | Input Supply Voltage |
| 1 | 2 | 5, 6 | SW | Switch Node |
| 3 | 4 | 7, 8 | GND | Ground |