

RS53317 2.85V to 16V Input, 6A Sync Step-Down Converter with Programmable Switching Frequency and Over Current Limit

Features

- Robust Constant On Time (RCOT™) Control with fast transient response
- Input Voltage Range: 2.85V to 16V with external bias, or 4V to 16V with internal bias
- Output Voltage Range: 0.6V to 6.0V for RS53317L. 0.9V to 6.0V for RS53317H
- 6A continuous output current
- Excellent load and line regulations with 0.5% voltage accuracy
- Stable with Zero ESR Output Capacitor
- Output Voltage Discharge
- Mode Selection Between Pulse Skip and CCM at Light Load
- PGOOD Active Clamped at Low Level during Power Failure
- Programmable Switch Valley Current Limit
- Adjustable Switching Frequency: 600kHz, 800kHz, 1100kHz, 2000kHz
- OCP, NOCP, UVP, UVLO, OTP and OVP
- 2mm x 3mm 14-Pin QFN Package
- RoHS compliant and Green

- Point of Load Module
- Standard 12V Rail Supplies
- High-end TV

Description

The RS53317 is a high power density, fully integrated synchronous buck converter. It has wide input voltage range and can support up to 6A continuous output current at defined conditions. LDO is integrated internally, which is very suitable for single input supply condition. External bias is optional for maximizing the efficiency. A differential sensing scheme and an internal feedback reference voltage achieve $\pm 1\%$ tolerance over full temperature range and, in conjunction, they perform an excellent line and load regulation.

Switching frequency can be easily adjusted from 600kHz, 800kHz, 1100kHz and 2000kHz. The RS53317 uses patented Robust Constant On Time (RCOT™) control scheme with fast transient response. Pure MLCC output capacitors can be used to save space and cost.

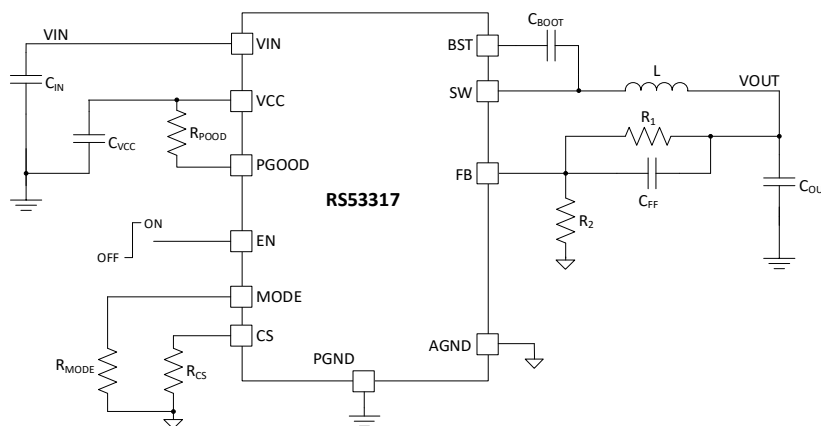
RS53317 has full protection features. OCP, UVP, UVLO, OTP are non-latch mode for RS53317L and latch-off mode for RS53317H. OVP is latch-off mode for both RS53317L and RS53317H.

The RS53317 is available in a 2mm x 3mm 14-Pin QFN package.

Applications

- Telecom/Datacom
- Computing and Servers

Typical Application Circuit



Ordering Information

Part Number	VFB	Package	Shipping Method	Package Marking
RS53317LT	0.6V	QFN-14	500u Tape & Reel	R3317L
RS53317LR	0.6V		4000u Tape & Reel	R3317L
RS53317HT	0.9V		500u Tape & Reel	R3317H
RS53317HR	0.9V		4000u Tape & Reel	R3317H