

RS53319 2.85V to 16V Input, 20A 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 5.5V for RS53319L, 0.9V to 5.5V for RS53319H. 90% max duty cycle
- 20A continuous output current
- Excellent load and line regulations with 0.5% voltage accuracy
- Differential Remote Sensing
- Mode Selection Between Pulse Skip and CCM at Light Load
- Programmable soft-start time
- 1.0μA Current into VIN Pin during Shutdown
- Programmable Switch Valley Current Limit
- Adjustable Switching Frequency: 600kHz, 800kHz, 1000kHz and 2.2MHz
- Non-latch OCP, UVP, UVLO and OTP. Latch-off OVP
- 3mm x 4mm 21-Pin QFN Package
- RoHS compliant and Green

- Computing, Servers, Storage, AI
- Point of Load (POL) Module
- Standard 12V Rail Supplies
- Gaming Consoles and Graphic Cards
- TV Power

Description

The RS53319 is a high power density, fully integrated synchronous buck converter. It has wide input voltage range, and can support up to 12A 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 ±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, 1000kHz, to 2.2MHz. The RS53319 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.

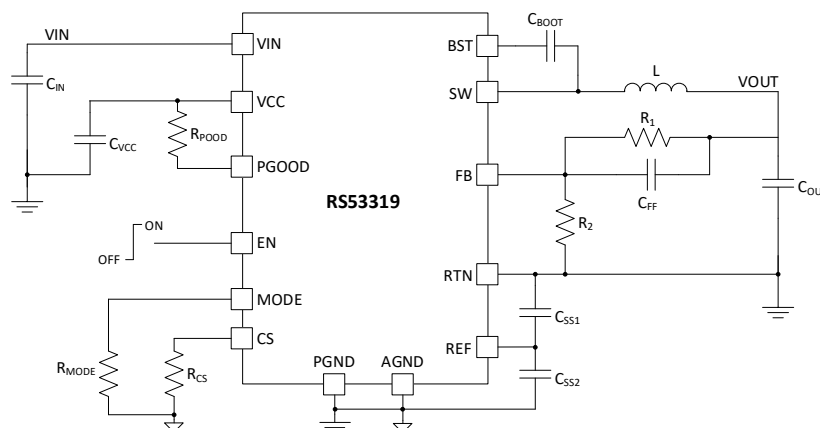
RS53319 has full protection features including OCP, NOCP, OVP, UVP and over temperature protection (OTP).

The RS53319 is available in a 3mm x 4mm 21-Pin QFN package.

Applications

- Telecom/Datacom
- Base Station

Typical Application Circuit



Ordering Information

Part Number	VCC	VREF	Package	Shipping Method	Package Marking
RS53319LT	3.3V	0.6V	QFN-21	500u Tape & Reel	R3319L
RS53319LR	3.3V	0.6V		5000u Tape & Reel	R3319L
RS53319HT	3.3V	0.9V		500u Tape & Reel	R3319H
RS53319HR	3.3V	0.9V		5000u Tape & Reel	R3319H