

# RS53328 2.85V to 16V Input, 12A 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 RS53328L, 0.9V to 5.5V for RS53328H. 90% max duty cycle
- 12A 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
- OCP, UVP, OVP, UVLO and OTP
- 3mm x 4mm 21-Pin QFN Package
- RoHS compliant and Green

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

## Description

The RS53328 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 RS53328 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.

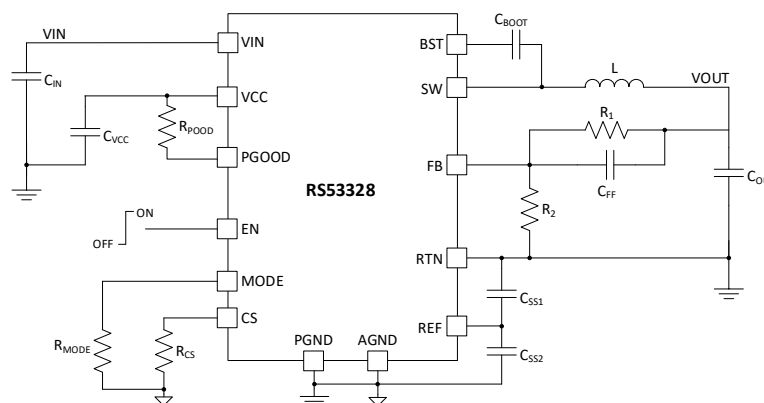
RS53328 has full protection features. OCP, UVP, UVLO, OTP are non-latch (hiccup) mode for RS53328L and latch-off mode for RS53328H. OVP is latch-off mode for both RS53328L and RS53328H.

The RS53328 is available in a 3mm x 4mm 21-Pin QFN package.

## Applications

- Telecom/Datacom
- Base Station
- Computing, Servers, Storage, AI

## Typical Application Circuit



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**Ordering Information**

Part Number	VREF	Package	Shipping Method	Package Marking
RS53328LT	0.6V	QFN-21	500u Tape & Reel	R3328L
RS53328LR	0.6V		5000u Tape & Reel	R3328L
RS53328HT	0.9V		500u Tape & Reel	R3328H
RS53328HR	0.9V		5000u Tape & Reel	R3328H