

RS31313/4/7 4.5V to 16V, 15A eFuse with Hot Swap Protection and Current Monitoring

Features

- Wide input voltage range: 4.5V to 16V
- Integrated 2.7mΩ Pass MOSFET
- Adjustable 2A to 15A current limit
- Adjustable over-current blanking timer for load transient without tripping
- Accurate current monitor
- Configurable fault response
 - Latch-off or auto-retry
 - Number of retries
 - Delay between retries
- Fast trip short-circuit protection: <400ns typical
- Adjustable output slew rate
- Adjustable input under-voltage lockout
- Input over-voltage protection (fixed 7.6V, 16.5V and no OVP options)
- Adjustable load detect and handshake timer
- Integrated overtemperature protection
- RoHS compliant and Green

Description

The RS31313 family of eFuses is an active circuit protection device with integrated MOSFET used to limit current and voltage to safe levels during fault conditions.

The current limit level can be set with a resistor between ILIM and ground, and the typical current limit accuracy is $\pm 1.5\%$ at 25°C.

The device has input over voltage protection feature to protect output load in the event of input over voltage fault.

To limit the inrush current during device turn-on, the rising slew rate of output voltage can be set by a capacitor between dV/dT and ground.

In addition, the device has adjustable over-current blanking timer to avoid over-current tripping during output load transient.

The device also offers EN on/off control and input UVLO features.

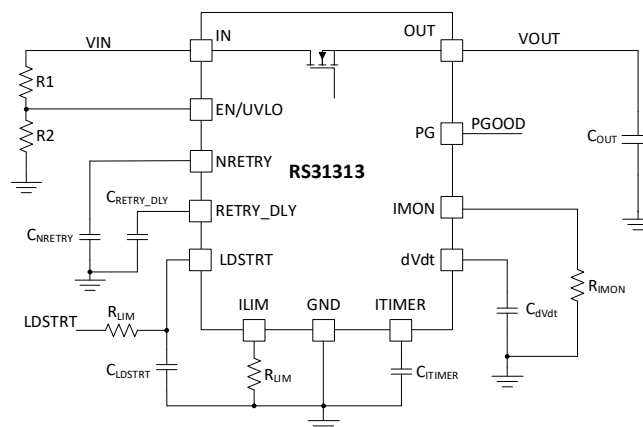
The device is available in LGA-26, 4x4 mm package.

Applications

- Server and AUX supplies
- PCI and PCIe cards
- Router and switch optical module
- Digital TV

PART NUMBER	PACKAGE	BODY SIZE
RS31313/4/7	LGA-26	4x4 mm

Typical Application Circuit



Device Comparison Table

Part Number	Over Voltage Threshold	Over Current Response
RS31313A	7.6V	Active Current Limiter
RS31314A	16.5V	Active Current Limiter
RS31317A	No OV	Active Current Limiter
RS31313B	7.6V	Circuit Breaker
RS31314B	16.5V	Circuit Breaker
RS31317B	No OV	Circuit Breaker

Order Information

Part Number	Package	Size	Shipping Method	Package Marking
RS31313AT	LGA-26	4x4 mm	250u Tape & Reel	R1313A
RS31313AR	LGA-26	4x4 mm	5000u Tape & Reel	R1313A
RS31313BT	LGA-26	4x4 mm	250u Tape & Reel	R1313B
RS31313BR	LGA-26	4x4 mm	5000u Tape & Reel	R1313B
RS31314AT	LGA-26	4x4 mm	250u Tape & Reel	R1314A
RS31314AR	LGA-26	4x4 mm	5000u Tape & Reel	R1314A
RS31314BT	LGA-26	4x4 mm	250u Tape & Reel	R1314B
RS31314BR	LGA-26	4x4 mm	5000u Tape & Reel	R1314B
RS31317AT	LGA-26	4x4 mm	250u Tape & Reel	R1317A
RS31317AR	LGA-26	4x4 mm	5000u Tape & Reel	R1317A
RS31317BT	LGA-26	4x4 mm	250u Tape & Reel	R1317B
RS31317BR	LGA-26	4x4 mm	5000u Tape & Reel	R1317B