Dual-Ouputs 6-A Buck Converter with Integrated DCP Scheme

1 Description

The SC8112A is a synchronous dual-output ports buck converter with a wide input voltage from 4.6V to 36V. The SC8112A regulates the output voltage at a fixed 5V or customized voltage by setting the divider resistor. It also provides high accurate output current limit. The converter enters Constant Current (CC) Mode in case any of the two output channels reaches the setting current limit. The total output power can be programmed by a resistor, which makes it easy for constant power (CP) control.

The SC8112A adopts programmable line drop compensation, programmable frequency setting with minimum external components. It also integrates automatic DCP mode and Type-C current mode, so that a USB controller can be saved. With minimum external components, maximum functions can be achieved for user's different applications.

The SC8112A also supports full protections including under voltage protection, over voltage protection, short circuit protection and auto-restart, over temperature protection.

The SC8112A adopts 32 pin QFN 5x5 package

2 Features

- Wide input operating voltage from 4.6V to 36V
- 11mΩ/27mΩ Low Rdson Internal Power MOSFETs
- Max output capacity with 5V/6A
- Almost 100% duty cycle operation
- Low quiescent current
- High side output current sense
- Programmable output power limit
- Programmable line drop compensation
- Supports 1.4ms output over-current debounce to meet Apple over-current requirement
- Build-in DP/DM for BC 1.2 DCP scheme
  - BC1.2 DCP Mode
  - Divider Mode
  - 1.2V/1.2V Mode
- Build-in USB Type-C 3A Current Mode Controller
- PFM Operation
- Adjustable frequency 80kHz to 600kHz
- Hiccup and auto-restart
- Full protection of UVLO, OVP, OCP, OTP

3 Applications

- Car Charger
- Multi-Ports Wall Charger
- Hub
- Industrial applications

4 Device Information

ORDER NUMBER	PACKAGE	BODY SIZE
SC8112AQDJR	32 pin QFN	5 mm x 5 mm x 0.75 mm