

USB PD Type-C Controller for SMPS

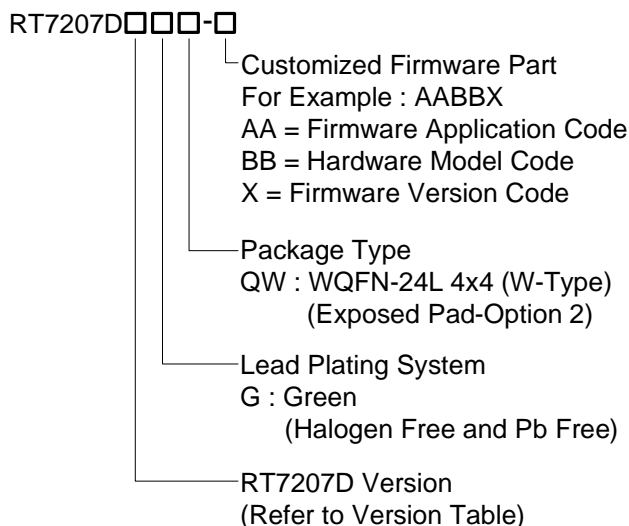
General Description

The RT7207D is a secondary-side USB Power Delivery (USB PD) Type-C controller for high-efficiency off-line AC-DC converters with slim form factor. The RT7207D integrates an MCU as a policy engine to handle USB PD protocol, and also integrates a built-in Biphasic Mark Coding (BMC) transceiver for USB PD or other proprietary protocols. An internal synchronous rectifier controller (SRC) can operate in both continuous-conduction mode (CCM) and discontinuous-conduction mode (DCM) even in the condition of a wide output voltage range of 3.3V to 20V. Dual operational amplifiers with respectively programmable reference voltages are included for voltage-loop and current-loop regulation to provide programmable constant-voltage (CV) and constant-current (CC) regulation in high precision.

Applications

- USB PD Type-C Chargers/Adapters for Smart Phones, NBs, Tablets and All Other Electronics.
- USB PD Extension Cores with Offline AC-DC Converters.

Ordering Information



Note :

Richtek products are :

- ▶ RoHS compliant and compatible with the current requirements of IPC/JEDEC J-STD-020.
- ▶ Suitable for use in SnPb or Pb-free soldering processes.

Features

- **Protocols Supported**
 - ▶ USB PD 2.0 and 3.0
 - ▶ Other Proprietary Protocols
- **Highly Integrated**
 - ▶ Embedded MCU with an OTP-ROM of 32kB and an SRAM of 1.5kB
 - ▶ Embedded BMC Transceiver
 - ▶ Built-in Synchronous Rectifier Driver and Controller
 - ▶ Built-in Charge Pump for a Wide V_{DD} Operating Range of 3.3V to 20V
 - ▶ Built-in Shunt Regulator for Constant-Voltage and Constant-Current Control
 - ▶ Programmable Cable Compensation
 - ▶ BLD Pin for Quick Discharge of Output Capacitor
 - ▶ USBP Pin for Direct Drive of External Blocking P-MOSFET
 - ▶ Power-Saving Mode in Standby Mode
- **Protection**
 - ▶ Adaptive Output Over-Voltage Protection
 - ▶ Adaptive Under-Voltage Protection
 - ▶ Firmware-Programmable Over-Current Protection
 - ▶ Firmware-Programmable Over-Temperature Protection

Pin Configuration

