

EVLVIPGAN65PD

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65 W USB Type-C Power Delivery reference design based on VIPERGAN65 and STUSB4761

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Product overview

Description

The EVLVIPGAN65PD is a 65 W USB Type-C® Power Delivery 3.0 adapter reference design. It is an isolated power supply with a standalone US PD controller. The evaluation board implements at the primary side a quasi-resonant flyback converter based on the VIPERGAN65 HV converter with optocoupler feedback for voltage regulation. This controller combines a high performance low-voltage PWM controller chip with a 650 V HV startup cell in the same package. The advanced power management with the low quiescent helps to achieve low standby consumptions.



At the secondary side, to increase the system efficiency, the rectification is based on the SRK1001 adaptive synchronous rectification controller.

Also on the secondary side, the CC/CV regulation loop to drive the power regulation stage and the USB Type-C® PD interface is based on the STUSB4761 controller. This controller offers the benefits of a full hardware USB PD stack allowing robust, deterministic, and safe negotiation in line with USB PD standards.

The evaluation board implements a robust adapter protected for output overvoltage, output undervoltage, output over power and output short-circuit. This reference design, based on STMicroelectronics semiconductors, helps designers to develop adapters with a short bill of materials in order to obtain a cost-effective and fast design.

All features

- Input voltage range: universal AC from 90 to 264 VAC with 47 Hz to 63 Hz frequency
- Maximum output power: 65 W
- Output voltage: single Type-C output 5 VDC±20 VDC
- Five fixed PDOs: 5 V@3 A, 9 V@3 A, 12 V@3 A, 15 V@3 A, 20 V@3.25 A

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