

Product brief

EZ-PD™ PAG1

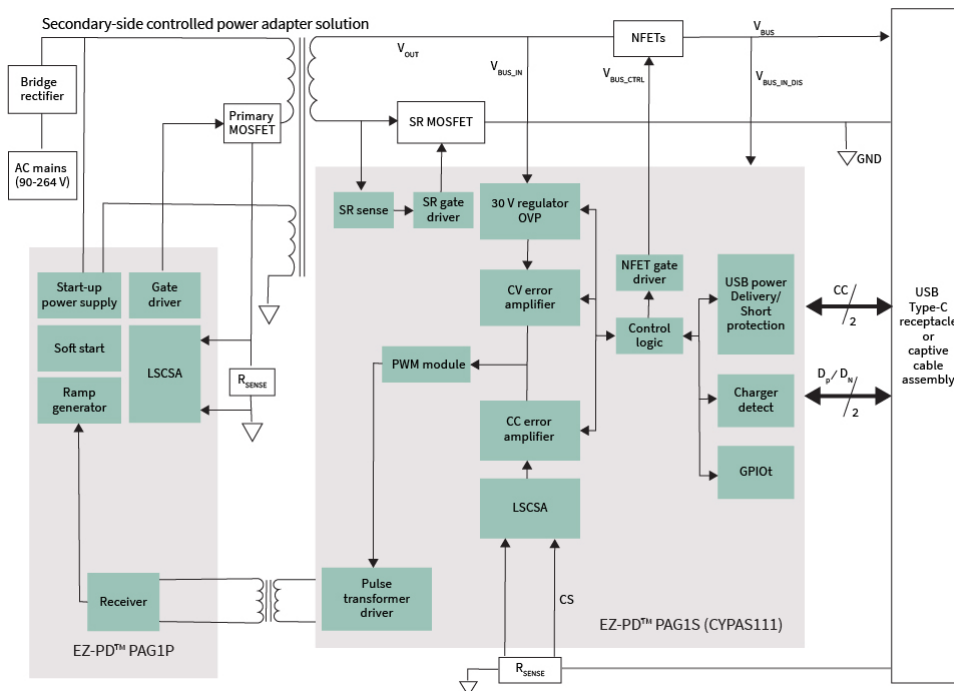
Integrated quasi-resonant flyback solution for USB-PD

EZ-PD™ PAG1P

EZ-PD™ PAG1P is a primary start-up controller for AC/DC applications. It is designed to work with EZ-PD™ PAG1S in a secondary-controlled AC/DC flyback converter topology where the voltage and current regulation is performed by EZ-PD™ PAG1S, and EZ-PD™ PAG1P provides the start-up function, drives the primary FET, and responds to the fault condition. EZ-PD™ PAG1P also supports X-cap discharge mode for better efficiency.



Design example: secondary-controlled flyback solution



Key features

- › Works across universal AC main input 85 V_{AC} to 265 V_{AC}
- › Synchronizes to PWM from secondary side using a pulse edge transformer
- › Integrated low-side gate driver to drive primary-side FET
- › Integrated high-voltage start-up and shunt regulator
- › Supports X-cap discharge mode for enhanced efficiency
- › Integrated line UV, OCP, and secondary OVP
- › Fixed auto-restart timer for fault recovery
- › Programmable soft-start configurable with external capacitor

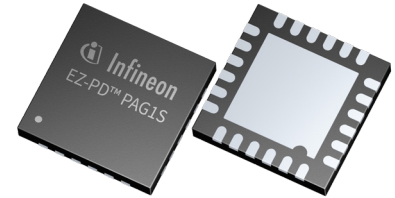


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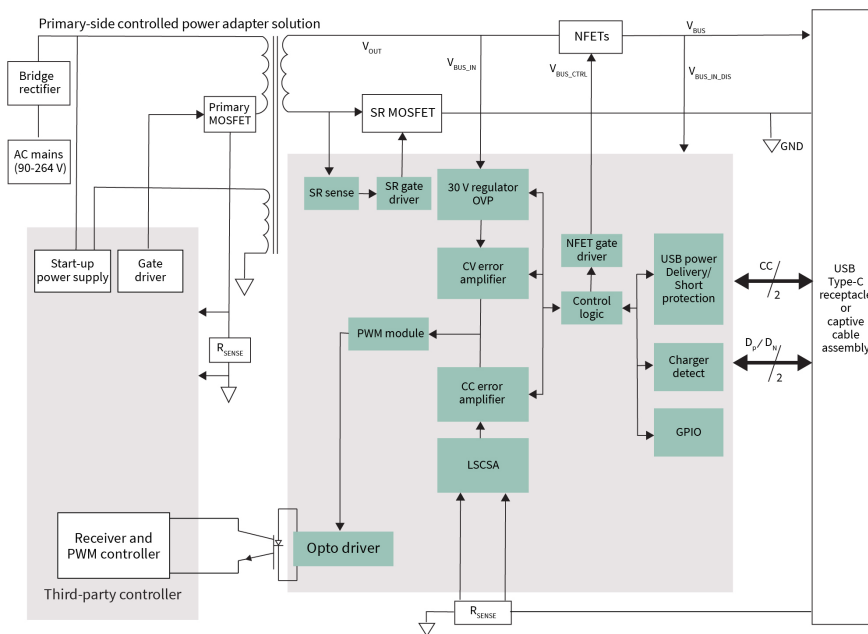
Integrated quasi-resonant flyback solution for USB-PD

EZ-PD™ PAG1S

EZ-PD™ PAG1S is a single-chip, secondary-side controller that integrates the synchronous rectification driver, PD controller, and a wide range of protection circuits. The controller is designed to support a traditional primary-controlled flyback architecture, as well as a more efficient secondary-controlled flyback architecture with a simple primary start-up controller. EZ-PD™ PAG1S helps you design world-class, high-performance power adapters at lower BOM costs.



Design example: primary-controlled flyback solution



Product name	Part number	Application	Package
PAG1S	CYPD3184A1-24LQXQ	USB power delivery adapter with primary-side control	24-pin QFN
PAG1S	CYPAS111A1-24LQXQ	USB power delivery adapter with secondary-side control	24-pin QFN
PAG1P	CYPAP111A3-10SXQ	USB power delivery adapter with secondary side control (non X-Cap discharge)	10-pin SOIC
PAG1P	CYPAP112A3-10SXQ	USB power delivery adapter with secondary-side control (X-cap discharge)	10-pin SOIC

www.infineon.com/PAG1

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Key features

- › Works with both primary-side and secondary-side controlled flyback designs
- › Integrates secondary-side regulation, synchronous rectifier (SR), and charging port controller
- › Supports quasi-resonant (QR) or critical conduction mode (CrCM), valley switching, discontinuous conduction mode (DCM), and burst mode mode for light load operations
- › Switching frequency range of 20 kHz to 150 kHz
- › Higher efficiency across line and load levels with independent CC/CV loop control
- › Supports USB PD 3.0 with PPS (USB-IF certified, TID:1475), QC4+
- › Supports legacy charging protocols: BC v1.2, AFC, and Apple charging
- › Integrates low-side current sense amplifier and V_{BUS} NFET gate drivers
- › Available in a 24 QFNv (4x4) package

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

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