

CYPRESS

PAG1P

Cypress' Primary Startup Controller

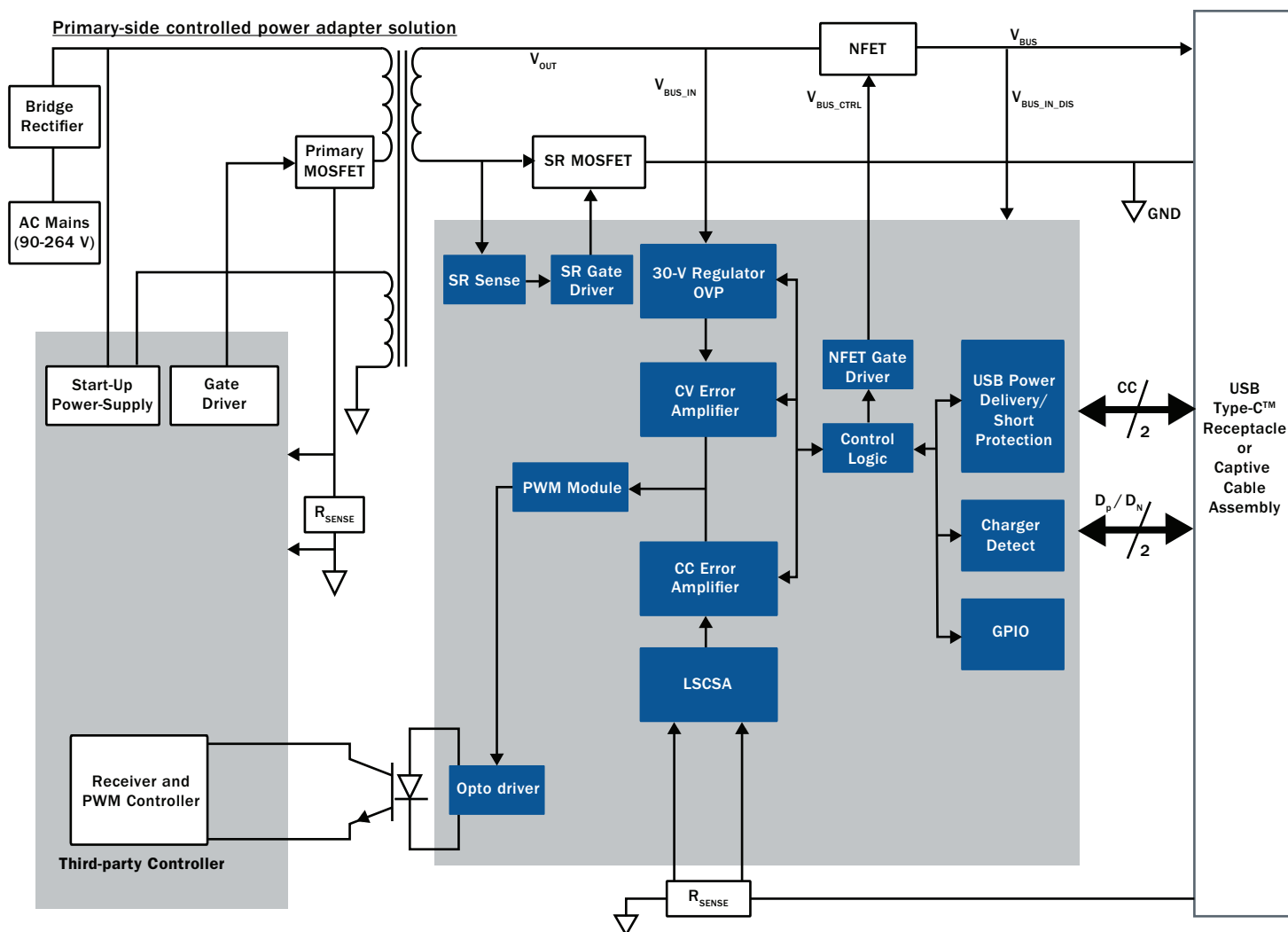
Cypress' PAG1P is a primary start-up controller for AC/DC applications. It is designed to work with PAG1S in a secondary controlled AC/DC flyback convertor topology where the voltage and current regulation is performed by PAG1S, and PAG1P provides the start-up function, drives the primary FET, and responds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



PAG1S

Cypress' Secondary Side Controller for USB-PD power adapters

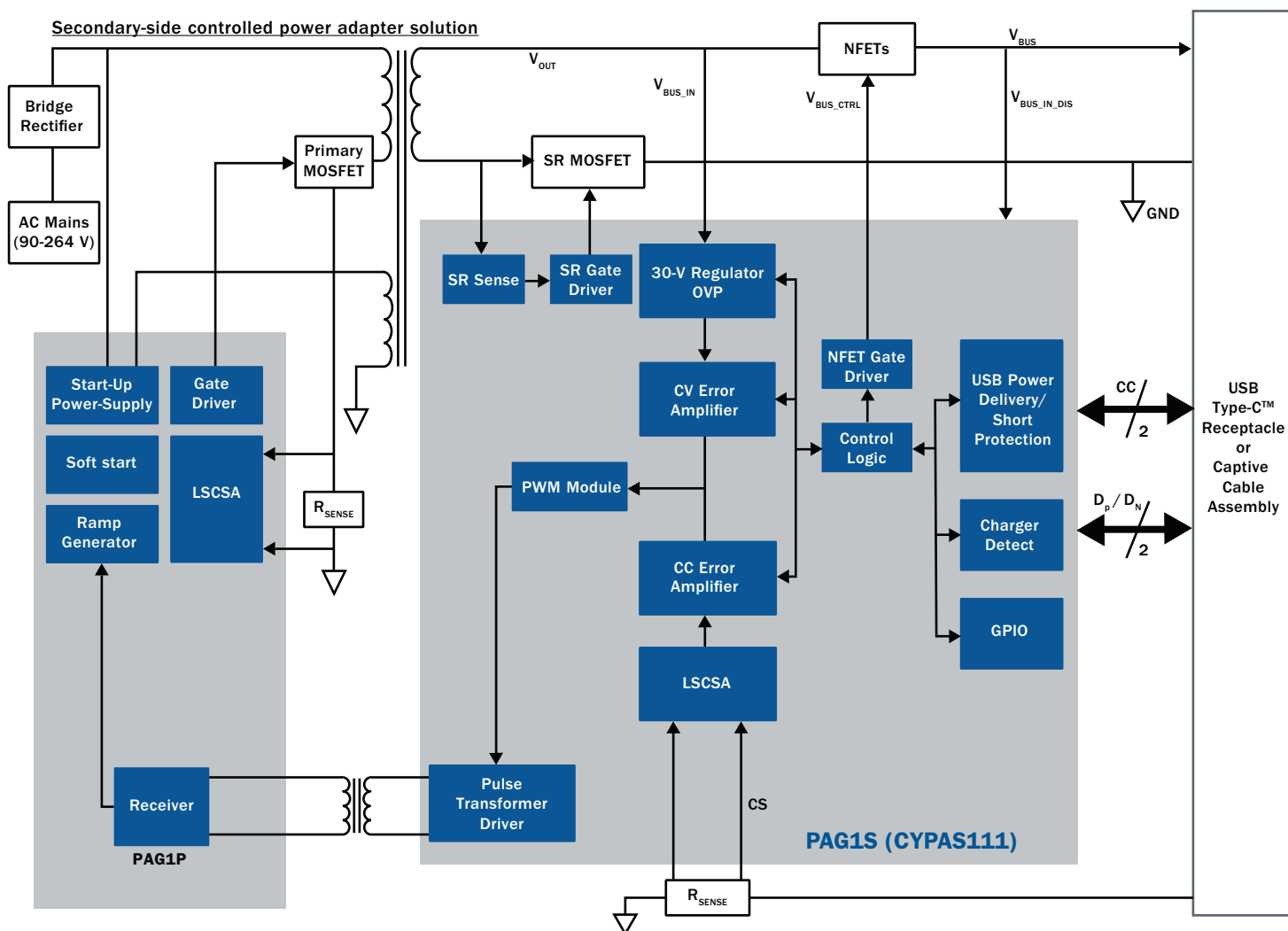
Cypress' PAG1S is a single-chip, secondary-side controller that integrates the synchronous rectification driver, PD controller, and a wide range of protection circuits. The controller is designed to support a traditional primary controlled flyback architecture, as well as a more efficient secondary-controlled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



PAG1P FEATURES

- Works across universal AC main input 85VAC to 265VAC
- 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

Design Example - Secondary - Controlled Flyback Solution



Device	MPN	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



ROADMAP

www.cypress.com/product-roadmaps/cypress-usb-controllers-roadmap

PAG1 WEBPAGE

www.cypress.com/pag1

USB POWER DELIVERY SPECIFICATION

www.usb.org/developers/powerdelivery



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