

Brief Description

The ZSPM1035A is a flexible true-digital single-phase PWM controller optimally configured for use with the Murata Power Solutions 35A Power Block OKLP-X/35-W12-C in smart digital power solutions.

The ZSPM1035A integrates a digital control loop, optimized for maximum flexibility and stability, as well as load step and steady-state performance. In addition, a rich set of protection and monitoring functions is provided. On-chip, non-volatile memory (NVM) and an I²C™ interface facilitate configuration.

IDT's PC-based Pink Power Designer™ graphic user interface (GUI) provides a user-friendly and easy-to-use interface to the ZSPM1035A for communication, monitoring, and configuration of the protection and sequencing features.

A downloadable reference solution is available, including a graphical user interface, layout guidelines, bill of materials, and step-by-step instructions.

Features

- Programmable digital control loop
- Advanced digital control techniques
 - Tru-sample Technology™
 - State-Law Control™ (SLC)
 - Sub-cycle Response™ (SCR)
- Improved transient response and noise immunity
- Protection features
 - Over-current protection
 - Over-voltage protection (VIN, VOUT)
 - Under-voltage protection (VIN, VOUT)
 - Overloaded startup
 - Continuous retry (“hiccup”) mode for fault conditions
- Fuse-based NVM for improved reliability
- Operation from a single 5V or 3.3V supply
- Optional PMBus™ address selection without external resistors

Benefits

- Fast time-to-market using off-the-shelf, optimally configured controller and power block
- Fast configurability and design flexibility
- Simplified design flow and high reliability via proven system design solution
- Reduced component count through system level integration
- Simplified monitoring for system power and thermal management
- Pin-to-pin compatible with the ZSPM1035C and ZSPM1035D PWM controllers enabling point-of-load platform designs with or without digital communication
- Higher energy efficiency across all output loading conditions

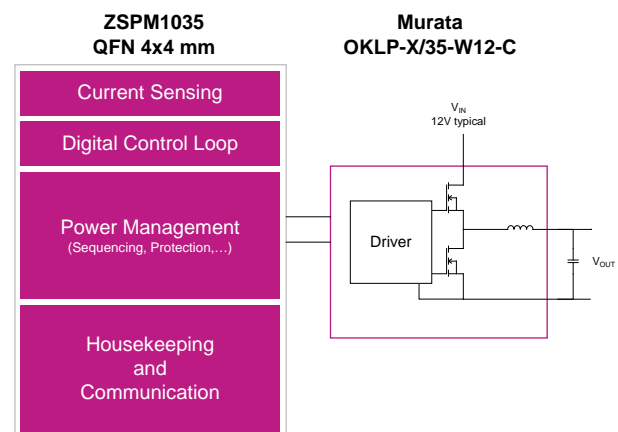
Available Support

- Evaluation Kit
- Reference Solution
- PC-based Pink Power Designer™ GUI

Physical Characteristics

- Operation temperature: -40°C to +125°C
- V_{OUT}: 0.35V to 3.6V
- Lead free (RoHS compliant) 24-pin QFN package (4mm x 4mm)

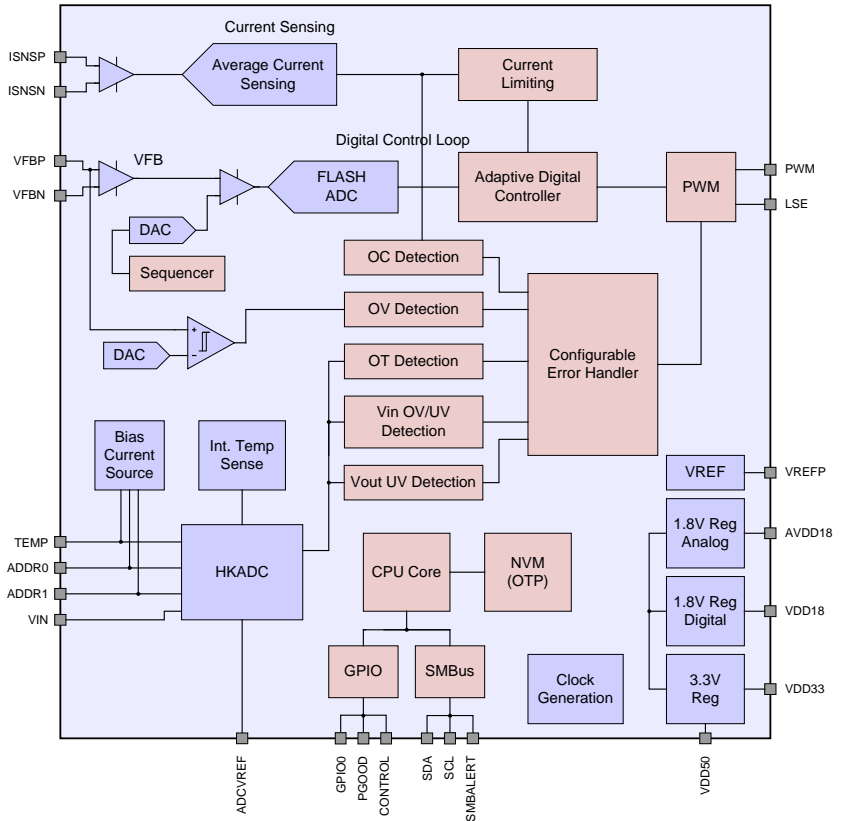
ZSPM1035A Typical Application Diagram



* I²C™ is a registered trademark of NXP.

ZSPM1035A Block Diagram

- Typical Applications**
- ❖ Telecom Switches
 - ❖ Servers and Storage
 - ❖ Base Stations
 - ❖ Network Routers
 - ❖ Industrial Applications
 - ❖ Single-Rail/Single-Phase Supplies for Processors, ASICs, FPGAs, DSPs



Ordering Information

Sales Code	Description	Package
ZSPM1035AA1W 1	ZSPM1035A Lead-free QFN24 — Temperature range: -40°C to +125°C *	Reel
ZSPM8035-KIT	Evaluation Kit for ZSPM1035A with PMBus™ Communication Interface — Pink Power Designer™ GUI for kit can be downloaded from the IDT web site at www.IDT.com/ZSPM1035A	Kit

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Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

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