

Brief Description

The ZSPM1005 is a configurable true-digital single-phase PWM controller for high-current, non-isolated DC/DC supplies. It operates as a synchronous step-down converter in a single-rail and single-phase configuration.

The ZSPM1005 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. To facilitate user configuration of the part, a set of configuration options can be pre-programmed in the ZSPM1005 that can be selected by setting the values of two external resistors.

IDT's Pink Power Designer™; a PC-based, user-friendly interface to the ZSPM1005, can be used to expedite the design of the digital compensator. It offers intuitive configuration methods for additional features, such as protection and sequencing. Once the part is programmed, the resistor options can be used to select the required configuration without a digital bus.

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
 - Restart and delay
- Support for SMOD and ZCD drivers
- Fuse-based one-time programmable (OTP) nonvolatile memory for improved reliability
- Operation from a single 5V or 3.3V supply
- 2-pin configuration for compensation, output voltage, and more

Benefits

- Fast configuration and design flexibility improves time-to-market
- Simplified design and integration
- FPGA designer-friendly solution
- Highest power density with smallest footprint
- Pin-to-pin compatible with the ZSPM1000 PWM controller enabling point-of-load power module platform designs with or without digital communication
- Higher energy efficiency across all output loading conditions

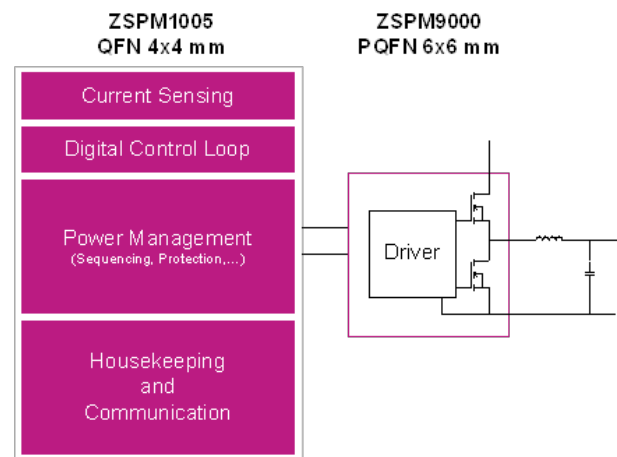
Available Support

- Evaluation Kit
- PC-based Pink Power Designer™

Physical Characteristics

- Operation temperature: -40°C to +125°C
- V_{OUT} max: 5V
- Lead free (RoHS compliant) 24-pin QFN package (4mm x 4mm)

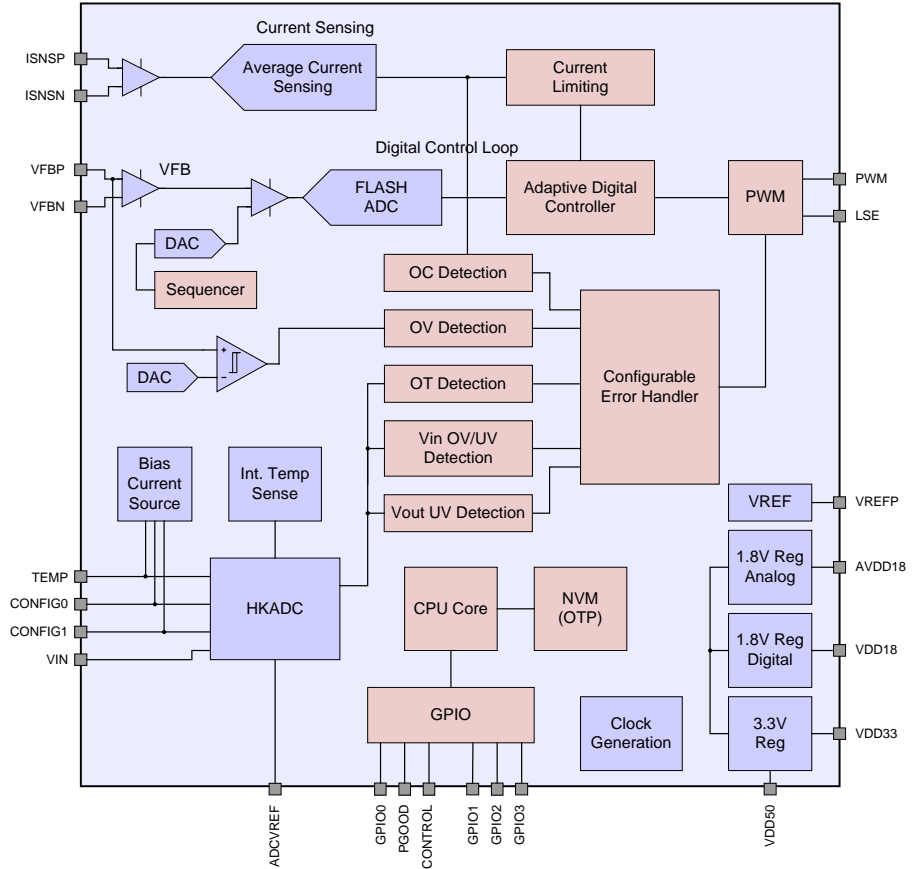
ZSPM1005 Typical Application Diagram



ZSPM1005 Block Diagram

Optimal Applications

- ❖ FPGA designs
- ❖ Point-of-load power modules for single-phase applications including telecommunication, base stations, servers and storage



Ordering Information

Product Sales Code	Description	Package
ZSPM1005ZA1R 0	ZSPM1005 Lead-free QFN24 — Temperature range: -40°C to +125°C	Reel
ZSPM8001-KIT	Integrated Evaluation Kit for ZSPM9060 and ZSPM1005 - closed loop evaluation board	Kit



Corporate Headquarters
6024 Silver Creek Valley Road
San Jose, CA 95138
www.IDT.com

Sales
1-800-345-7015 or 408-284-8200
Fax: 408-284-2775
www.IDT.com/go/sales

Tech Support
www.IDT.com/go/support

DISCLAIMER Integrated Device Technology, Inc. (IDT) reserves the right to modify the products and/or specifications described herein at any time, without notice, at IDT's sole discretion. Performance specifications and operating parameters of the described products are determined in an independent state and are not guaranteed to perform the same way when installed in customer products. The information contained herein is provided without representation or warranty of any kind, whether express or implied, including, but not limited to, the suitability of IDT's products for any particular purpose, an implied warranty of merchantability, or non-infringement of the intellectual property rights of others. This document is presented only as a guide and does not convey any license under intellectual property rights of IDT or any third parties.

IDT's products are not intended for use in applications involving extreme environmental conditions or in life support systems or similar devices where the failure or malfunction of an IDT product can be reasonably expected to significantly affect the health or safety of users. Anyone using an IDT product in such a manner does so at their own risk, absent an express, written agreement by IDT.

Integrated Device Technology, IDT and the IDT logo are trademarks or registered trademarks of IDT and its subsidiaries in the United States and other countries. Other trademarks used herein are the property of IDT or their respective third party owners. For datasheet type definitions and a glossary of common terms, visit www.idt.com/go/glossary. All contents of this document are copyright of Integrated Device Technology, Inc. All rights reserved.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9