

To request the full datasheet, please visit www.intersil.com/products/isl69134

Digital Dual Output, 4-Phase Configurable, IMVP8 PWM Controller

ISL69134

The [ISL69134](#) is a digital dual output, flexible multiphase ($X+Y \leq 4$) PWM controller designed to be compliant with Intel IMVP8 specifications. The digital multiphase controller can be configured to support any desired phase assignments up to a maximum of 4 phases across the two outputs (X and Y). For example, 3+1, 2+2, or even a single output operation as a 4+0 configuration are supported. With a flexible $X+Y \leq 4$ phase assignment along with PMBus and SVID interfaces, it is ideal for controlling the microprocessor core, memory and system rails of Intel IMVP8 platforms.

The ISL69134 utilizes Intersil's proprietary digital linear synthetic current modulation scheme to achieve the industry's best combination of transient response and ease of tuning while addressing the challenges of powering the latest generation of Intel microprocessors. Device configuration and telemetry monitoring are accomplished via Intersil's intuitive PowerNavigator™ GUI. Diode emulation and automatic phase add/drop features allow the user to extract maximum efficiency from the converter regardless of load conditions.

The ISL69134 supports a comprehensive fault management system to enable the design of highly reliable systems. From an overcurrent protection scheme including peak and average detection, to the configurable power-good and catastrophic fault protection flags, any need is accommodated.

With minimal external components, ability to store eight configurations, robust fault management, and highly accurate regulation capability, implementing a high-performance multiphase, regulator has never been easier.

Applications

- Core and memory for Intel IMVP8 based processor
 - High performance servers core or memory rail
 - High performance graphic rail
 - High-end desktop
- Networking, data center, storage and general purpose

Features

- Advanced linear digital modulation scheme
 - Zero latency synthetic current control for excellent high frequency current balance
 - Auto phase add/drop for excellent load vs efficiency profile
 - Dual edge modulation for faster transient response
 - Excellent DVID performance
- Flexible phase assignment from 0 to 4 phases per output
- Up to 1MHz operation for high density designs
- Diode braking for overshoot reduction
- Diode emulation for enhanced light-load efficiency
- Differential remote voltage sensing supports $\pm 0.5\%$ closed-loop system accuracy over load, line, and temperature
- Highly accurate current sensing for excellent load line regulation and accurate OCP
 - Supports ISL99227 60A smart power stage
 - Supports DCR sense with integrated temperature compensation
- Comprehensive fault management enables high reliability systems
 - Pulse-by-pulse phase current limiting
 - Total output current protection
 - Output and input OV/UV protection
 - Open voltage sense detect
 - Black box recording capability for faults
 - Configurable Catastrophic Failure Protection (CFP) flag output
- Intuitive configuration via [PowerNavigator™](#)
- SMBus/PMBus™ v1.3 compatible
 - Up to 2MHz bus interface
 - NVM to store up to eight configurations
- Pb-free (RoHS compliant)

For additional products, see www.intersil.com/en/products.html

Intersil products are manufactured, assembled and tested utilizing ISO9001 quality systems as noted in the quality certifications found at www.intersil.com/en/support/qualandreliability.html

Intersil products are sold by description only. Intersil Corporation reserves the right to make changes in circuit design, software and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by Intersil is believed to be accurate and reliable. However, no responsibility is assumed by Intersil or its subsidiaries for its use; nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Intersil or its subsidiaries.

For information regarding Intersil Corporation and its products, see www.intersil.com