IC CTRLR PWM 4PHASE BUCK 48-QFN HT SUSA CODE:8542390000

Manufacturers	Renesas Technology Corp
Package/Case	QFN-48
Product Type	Power Management ICs
RoHS	
Lifecycle	
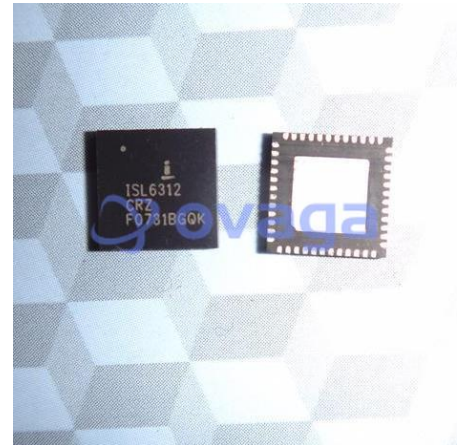
Images are for reference only

Please submit RFQ for ISL6312CRZ or Email to us: sales@ovaga.com We will contact you in 12 hours.

RFQ

General Description

The ISL6312 four-phase PWM control IC provides a precision voltage regulation system for advanced microprocessors. The integration of power MOSFET drivers into the controller IC marks a departure from the separate PWM controller and driver configuration of previous multiphase product families. By reducing the number of external parts, this integration is optimized for a cost and space saving power management solution. One outstanding feature of this controller IC is its multi-processor compatibility, allowing it to work with both Intel and AMD microprocessors. Included are programmable VID codes for Intel VR10, VR11, as well as AMD DAC tables. A unity gain, differential amplifier is provided for remote voltage sensing, compensating for any potential difference between remote and local grounds. The output voltage can also be positively or negatively offset through the use of a single external resistor. The ISL6312 also includes advanced control loop features for optimal transient response to load apply and removal. One of these features is highly accurate, fully differential, continuous DCR current sensing for load line programming and channel current balance. Active Pulse Positioning (APP) modulation is another unique feature, allowing for quicker initial response to high di/dt load transients. This controller also allows the user the flexibility to choose between PHASE detect or LGATE detect adaptive dead time schemes. This ability allows the ISL6312 to be used in a multitude of applications where either scheme is required. Protection features of this controller IC include a set of sophisticated overvoltage, undervoltage, and overcurrent protection. Furthermore, the ISL6312 includes protection against an open circuit on the remote sensing inputs. Combined, these features provide advanced protection for the microprocessor and power system.

Features

Integrated Multiphase Power Conversion

2- or 3-Phase Operation with Internal Drivers

4-Phase Operation with External PWM Driver Signal

Precision Core Voltage Regulation

Differential Remote Voltage Sensing

±0.5% System Accuracy Over-Temperature

Adjustable Reference-Voltage Offset

Optimal Transient Response

Active Pulse Positioning (APP) Modulation

Adaptive Phase Alignment (APA)

Fully Differential, Continuous DCR Current Sensing

Accurate Load Line Programming

Precision Channel Current Balancing

User Selectable Adaptive Dead Time Scheme

PHASE Detect or LGATE Detect for Application Flexibility

Variable Gate Drive Bias: 5V to 12V

Multi-Processor Compatible

Intel VR10 and VR11 Modes of Operation

AMD Mode of Operation

Microprocessor Voltage Identification Inputs

8-bit DAC

Selectable between Intel's Extended VR10, VR11, AMD 5-bit, and AMD 6-bit DAC Tables
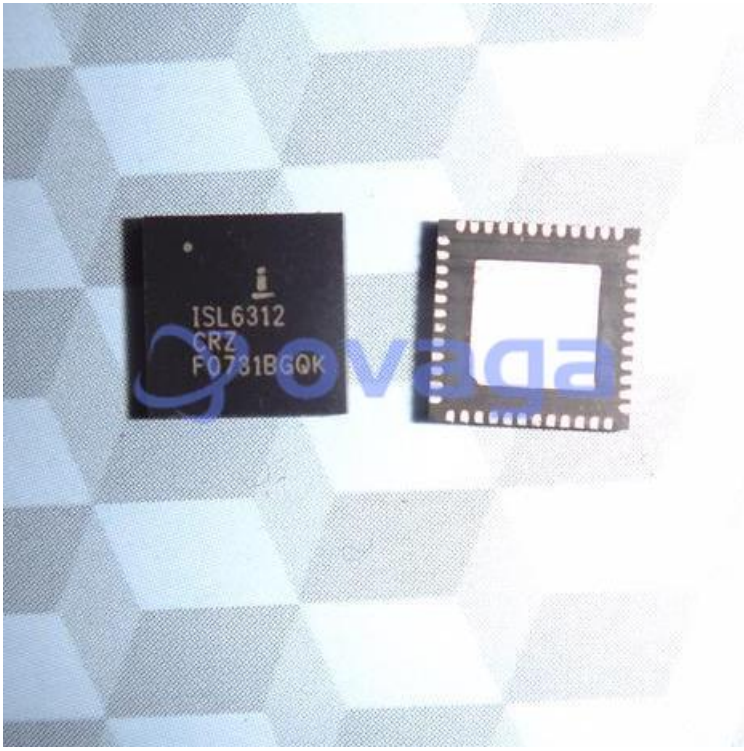
Dynamic VID Technology

Overcurrent Protection

Multi-Tiered Overvoltage Protection

Digital Soft-Start

Selectable Operation Frequency up to 1.5MHz Per Phase

Pb-Free (RoHS Compliant)

Related Products

[ISL6262ACRZ](#)

Renesas Technology Corp

QFN-48

[ISL6294IRZ-T](#)

Renesas Technology Corp

QFN-8

[ISL21080CIH315Z-TK](#)

Renesas Technology Corp

SOT-23-3

[ISL6506BCBZ](#)

Renesas Technology Corp

SOP-8

[ISL6377HRZ-T](#)

Renesas Technology Corp

QFN-48

[ISL62771HRTZ-T](#)

Renesas Technology Corp

40-WFQFN Exposed Pad

[ISL62771HRTZ](#)

Renesas Technology Corp

QFN40

[ISL95808HRZ-T](#)

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DFN-8