Switching Controllers VR12 4 PWM CNTRLR P6 4 8LD 6X6

Manufacturers	Renesas Technology Corp
Package/Case	QFN-48
Product Type	Voltage Regulators
RoHS	
Lifecycle	

Images are for reference only

Please submit RFQ for ISL6364CRZ or Email to us: sales@ovaga.com We will contact you in 12 hours.

RFQ

General Description

The ISL6364 is a dual PWM controller; its 4-phase PWMs control the microprocessor core or the memory voltage regulator, while its single-phase PWM controls the peripheral voltage regulator for graphics, system agent, or processor I/O. The ISL6364 utilizes Intersil's proprietary Enhanced Active Pulse Positioning (EAPP) modulation scheme to achieve extremely fast transient response with fewer output capacitors. The ISL6364 is designed to be compliant to Intel VR12/IMVP7 specifications. It accurately monitors the load current via the IMON pin and reports this information via the IOUT register to the microprocessor, which sends a PSI# signal to the controller at low power mode via SVID bus. The controller enters 1 or 2-phase operation in low power mode (PSI1); in the ultra low power mode (PSI2,3), it operates in single phase with diode emulation option. In low power modes, the magnetic core and switching losses are significantly reduced, yielding high efficiency at light load. After the PSI# signal is de-asserted, the dropped phase(s) are added back to sustain heavy load transient response and efficiency. today's microprocessors require a tightly regulated output voltage position versus load current (droop). The ISL6364 senses the output current continuously by measuring the voltage across a dedicated current sense resistor or the DCR of the output inductor. The sensed current flows out of the FB pin to develop a precision voltage drop across the feedback resistor for droop control. Current sensing also provides information for channel current balancing, average overcurrent protection and individual phase current limiting. The TM and TMS pins sense an NTC thermistor's temperature, which is internally digitized for thermal monitoring and for integrated thermal compensation of the current sense elements of the respective regulator. The ISL6364 features remote voltage sensing and completely eliminates any potential difference between remote and local grounds. This improves regulation and protection accuracy. The threshold-sensitive enable input is available to accurately coordinate the start-up of the ISL6364 with other voltage rails.

Features

Intel VR12/IMVP7 Compliant

SerialVID with Programmable IMAX, TMAX, BOOT, ADDRESS OFFSET Registers

Intersil's Proprietary Enhanced Active Pulse Positioning (EAPP) Modulation Scheme (Patented)

Variable Frequency Control During Load Transients to Reduce Beat Frequency Oscillation

Linear Control with Evenly Distributed PWM Pulses for Better Phase Current Balance During Load Transients

Voltage Feed-Forward and Adjustable Ramp Options

High Frequency and PSI Compensation Options

Dual Outputs

Output 1 (VR0): 1 to 4-Phase for Core or Memory (Coupled Inductor Compatible)

Output 2 (VR1): Single Phase for Graphics, System Agent, or Processor I/O

Differential Remote Voltage Sensing

±0.5% Closed-loop System Accuracy Over Load, Line and Temperature

Phase Doubler Compatibility (NOT Phase Dropping via PWM Lines)

Proprietary Active Phase Adding and Dropping with Diode Emulation Scheme For Enhanced Light Load Efficiency

Programmable Slew Rate of Fast Dynamic VID for VR0

Dynamic VID Compensation (DVS) for VR1 at No Droop

Droop and Diode Emulation Options

Programmable 1 or 2-Phase Operation in PSI1/2/3 Mode

Programmable Standard or Coupled-Inductor Operation

Precision Resistor or DCR Differential Current Sensing

Integrated Programmable Current Sense Resistors

Integrated Thermal Compensation

Accurate Load-Line (Droop) Programming

Accurate Channel-Current Balancing

Accurate Current Monitoring

Average Overcurrent Protection and Channel Current Limit With Internal Current Comparators

Precision Overcurrent Protection on IMON & IMONS Pins

Independent Oscillators, up to 1MHz Per Phase, for Cost, Efficiency, and Performance Optimization

Dual Thermal Monitoring and Thermal Compensation

Start-up Into Pre-Charged Load

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

Renesas Technology Corp

DFN-8