ISL62882CHRTZ

Multiphase PWM Regulator 40-Pin TQFN EP Tube

Manufacturer:	Renesas Technology Corp
Package/Case:	QFN
Product Type:	Power Management ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Obsolete

Images are for reference only

Inquiry

General Description

The ISL62882 is a multiphase PWM buck regulator for miroprocessor or graphics processor core power supply. The multiphase buck converter uses interleaved phases to reduce the total output voltage ripple with each phase carrying a portion of the total load current, providing better system performance, superior thermal management, lower component cost, reduced power dissipation, and smaller implementation area. The ISL62882 uses two integrated gate drivers to provide a complete solution. The PWM modulator is based on Intersil's Robust Ripple Regulator (R3) technology™. Compared with traditional modulators, the R3™ modulator commands variable switching frequency during load transients, achieving faster transient response. With the same modulator, the switching frequency is reduced at light load, increasing the regulator efficiency. The ISL62882 can be configured as CPU or graphics Vcore controller and is fully compliant with IMVP-6.5™ specifications. It responds to PSI# and DPRSLPVR signals by adding or dropping Phase 2, adjusting overcurrent protection threshold accordingly, and entering/exiting diode emulation mode. It reports the regulator output current through the IMON pin. It senses the current by using either discrete resistor or inductor DCR whose variation over temperature can be thermally compensated by a single NTC thermistor. It uses differential remote voltage sensing to accurately regulate the processor die voltage. The unique split LGATE function further increases light load efficiency. The adaptive body diode conduction time reduction function minimizes the body diode conduction loss in diode emulation mode. User-selectable overshoot reduction function offers an option to aggressively reduce the output capacitors as well as the option to disable it for users concerned about increased system thermal stress. The ISL62882 offers the FB2 function to optimize 1-phase performance. The ISL62882B has the same functions as the ISL62882, but comes in a different package.

Key Features

Programmable 1- or 2-Phase CPU Mode Operation or 1-Phase GPU Mode Operation

Precision Multiphase Core Voltage Regulation

0.5% System Accuracy Over-Temperature

Enhanced Load Line Accuracy

Microprocessor Voltage Identification Input

7-Bit VID Input, 0V to 1.500V in 12.5mV Steps

Supports VID Changes On-The-Fly

Supports Multiple Current Sensing Methods

Lossless Inductor DCR Current Sensing

Precision Resistor Current Sensing

Supports PSI# and DPRSLPVR modes

Superior Noise Immunity and Transient Response

Current Monitor and Thermal Monitor

Differential Remote Voltage Sensing

High Efficiency Across Entire Load Range

Programmable 1- or 2-Phase Operation

Two Integrated Gate Drivers

Excellent Dynamic Current Balance Between Phases

Split LGATE1 Drivers Increases Light Load Efficiency

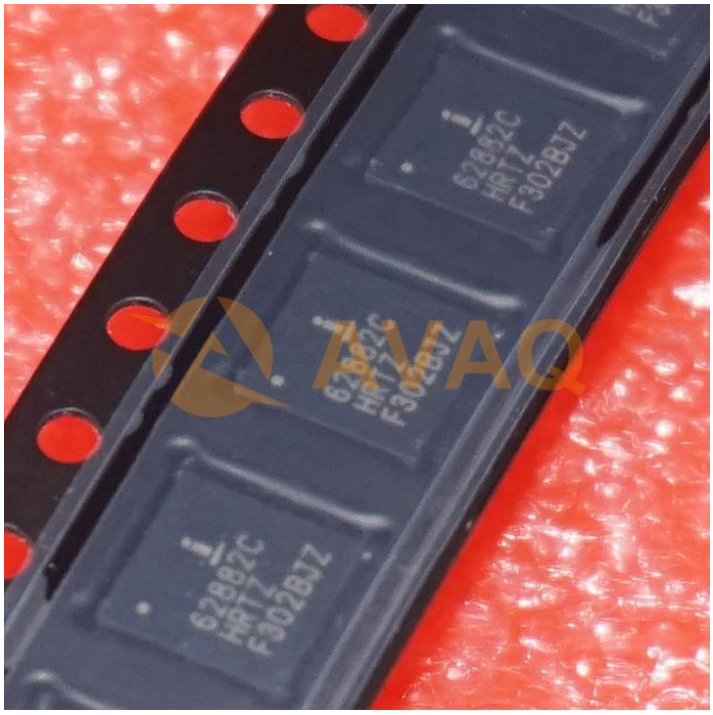
FB2 Function Optimizes 1-Phase Mode Performance

Adaptive Body Diode Conduction Time Reduction

User-selectable Overshoot Reduction Function

Small Footprint 40 Ld 5x5 or 48 Ld 6x6 TQFN Packages

Pb-Free (RoHS Compliant)



Recommended For You

ISL83202IBZ

Renesas Technology Corp

SOP16

ISL9492ERZ

Renesas Technology Corp

QFN

ISL6520ACBZ-T

Renesas Technology Corp

SOP8

ISL62883CHRTZ

Renesas Technology Corp

QFN

ISL95836HRTZ-T

Renesas Technology Corp

QFN40

ISL95837HRZ-T

Renesas Technology Corp

QFN40

ISL95837HRZ

Renesas Technology Corp

QFN40

ISL93011IRZ

Renesas Technology Corp

DFN10

ISL95835HRZ

Renesas Technology Corp

QFN

ISL95812HRZ

Renesas Technology Corp

QFN

ISL95870HRUZ-T

Renesas Technology Corp

QFN16

ISL6521IBZ

Renesas Technology Corp

SOP16

ISL95870BIRZ-T

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QFN20

ISL78214ARZ

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