Device Information

ISL95837

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3+1 and 1+1 Voltage Regulator for IMVP-7/VR12™ CPUs

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Datasheet

ISL95837

The ISL95835, ISL95837 datasheet is restricted to a very limited number of customers. To request a datasheet please email Jia Wei at jwei@intersil.com

V_{IN} (min) (V)	4.5
V_{IN} (max) (V)	5.5
V_{OUT} (min) (V)	0
V_{OUT} (max) (V)	1.52
I_{OUT} (max) (A)	30
V_{BIAS} (V)	5
Applications	VR12/IMVP7
Max # of outputs	2
Max # of phases	1
Droop	Y
Integrated MOSFET Driver	Y

Product Information

Key Features

Serial Data Bus
Dual Outputs:
- Configurable 3-, 2- or 1-phase for the 1st Output using 2 integrated Gate Drivers
- 1-phase for the 2nd Output using an Integrated Gate Driver

0.5% System Accuracy Over-Temperature
Supports Multiple Current Sensing Methods
- Lossless Inductor DCR Current Sensing
- Precision Resistor Current Sensing

Differential Remote Voltage Sensing
Programmable V_{BOOT} Voltage at Start-up
Resistor Programmable I_{MAX}, T_{MAX} for Both Outputs
Adaptive Body Diode Conduction Time Reduction

Description

Compliant with IMVP-7/VR12™, the ISL95835 provides a complete solution for microprocessor and graphic processor core power supply. It provides two Voltage Regulators (VRs) with three integrated gate drivers. The first VR can be configured as
3-, 2- or 1-phase VR while the second output is 1-phase VR, providing maximum flexibility. The two VRs share the serial control bus to communicate with the CPU and achieve lower cost and smaller board area compared with the two-chip approach.

Based on Intersil's Robust Ripple Regulator (R3) technology™, the PWM modulator compared to traditional modulators, has faster transient settling time, variable switching frequency during load transients and has improved light load efficiency with it's ability to automatically change switching frequency.

The ISL95835 has several other key features. Both outputs support DCR current sensing with single NTC thermistor for DCR temperature compensation or accurate resistor current sensing. Both outputs come with remote voltage sense, programmable V_{BOOT} voltage, programmable I_{MAX}, T_{MAX}, adjustable switching frequency, OC protection and separate Power-Good.

The ISL95837 can be considered as ISL95835 dedicated for 1+1 application. VR1 and VR2 are both 1-phase VR.

Packaging / Samples / Ordering

iBuy direct from Intersil | iBuy direct - out of stock | Request samples
Check distributor inventory | Available in RoHS/Pb-Free

Part No.	Design-In Status	Temp.	Package	MSL	Pb
ISL95837HRZ	Active	Hi-Temp Comm	40 Ld QFN	3	✔
ISL95837HRZ-T	Active	Hi-Temp Comm	40 Ld QFN T+R	3	✔
ISL95837IRZ	Active	Ind	40 Ld QFN	3	✔
ISL95837IRZ-T	Active	Ind	40 Ld QFN T+R	3	✔

MSL = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020
SMD = Standard Microcircuit Drawing

Technical Documentation

Datasheet(s):

EN The ISL95835, ISL95837 datasheet is restricted to a very limited number of customers. To request a datasheet please email Jia Wei at jwei@intersil.com

Tools And Support

iSim Design Simulation
No Models Available

Applications
IMVP-7/VR12 Compliant Computers

Related Devices PT Parametric Table

ISL6353	Multiphase PWM Regulator for VR12 DDR Memory Systems
ISL6363	Multiphase PWM Regulator for VR12™ Desktop CPUs
ISL6364	Dual 4-Phase + 1-Phase PWM Controller for VR12/IMVP7 Applications
ISL6364C	Dual 4-Phase + 1-Phase PWM Controller for VR12 Desktop Applications
ISL6366	Dual 6-Phase + 1-Phase PWM Controller for VR12/IMVP7 Applications
ISL95831	3+1 Voltage Regulator for IMVP-7/VR12 CPUs
ISL95835	3+1 and 1+1 Voltage Regulator for IMVP-7/VR12™ CPUs