

Device Information

ISL95831

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

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Datasheet



ISL95831

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

V_{IN} (min) (V)	4.5
V_{IN} (max) (V)	25
V_{OUT} (min) (V)	.25
V_{OUT} (max) (V)	1.52
I_{OUT} (max) (A)	90
V_{BIAS} (V)	5
Applications	VR12/IMVP7
Max # of outputs	1
Max # of phases	3
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 ISL95831 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 ISL95831 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.

Pricing / 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	RoHS	iBuy	Inventory	Request
ISL95831HRTZ	Active	Hi-Temp Comm	48 Ld TQFN	3				
ISL95831HRTZ-T	Active	Hi-Temp Comm	48 Ld TQFN T+R	3				
ISL95831IRTZ	Active	Ind	48 Ld TQFN	3				
ISL95831IRTZ-T	Active	Ind	48 Ld TQFN T+R	3				

The price listed is the manufacturer's suggested retail price for quantities of 1K units. However, prices in today's market are fluid and may change without notice.

MSL = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020

SMD = Standard Microcircuit Drawing

Technical Documentation

Datasheet(s):

[3+1 Voltage Regulator for IMVP-7/VR12 CPUs](#)

Tools And Support

iSim Design Simulation

[iSim:PE Users Guide](#)

Application Block Diagrams

[Notebook Computers](#)

Applications

[IMVP-7/VR12 Compliant Computers](#)



Related Devices

- [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
- [ISL95835](#) 3+1 and 1+1 Voltage Regulator for IMVP-7/VR12™ CPUs
- [ISL95837](#) 3+1 and 1+1 Voltage Regulator for IMVP-7/VR12™ CPUs



Parametric Table

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