Device Information

ISL95833

Dual 2+1 PWM Controller for IMVP-7/VR12 CPUs

Print Page

Datasheet

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V_{IN} (min) (V)	4.75
V_{IN} (max) (V)	5.25
V_{OUT} (min) (V)	.25
V_{OUT} (max) (V)	1.52
I_{OUT} (max) (A)	60
V_{BIAS} (V)	5
Applications	VR12/IMVP7
Max # of outputs	2
Max # of phases	2
Droop	Y
Integrated MOSFET Driver	Y

Product Information

Key Features

- Serial Data Bus
- Dual Outputs:
  - Configurable 2- or 1-phase for the 1st Output using one Integrated Gate Driver
  - 1-phase for the 2nd Output using an Integrated Gate Driver
- R3 Modulator
  - Excellent Transient Response
  - High Light Load Efficiency
- 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 VBOOT Voltage at Start-up
- Resistor Programmable IMAX, Switching Frequency for Both Outputs
- Adaptive Body Diode Conduction Time Reduction

Description

The ISL95833 Pulse Width Modulation (PWM) controller IC provides a complete solution for IMVP-7/VR12™ compliant microprocessor and graphic processor core power supplies. It provides the control and protection for two Voltage Regulators (VRs). The first VR, typically for V_{CORE}, incorporates 1 integrated driver and can operate in 2- or 1-phase configurations. The second VR, typically for Graphics, is a single phase regulator incorporating an integrated driver. The two VRs share a serial control bus to communicate with the CPU and achieve lower cost and smaller board area compared with the two-chip approach.

Both VRs utilize Intersil's Robust Ripple Regulator R3 Technology™. The R3 modulator has numerous advantages compared to traditional modulators, including faster transient response, variable switching frequency during load transients, and improved light load efficiency due to its ability to automatically change switching frequency.

The ISL95833 has several other key features. Both outputs support either DCR current sensing with a single NTC thermistor for DCR temperature compensation, or more precise resistor current sensing if desired. Both outputs come with remote voltage sense, programmable VBOOT voltage, IMAX, and switching frequency, adjustable overcurrent protection and separate Power-Good signals.

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	Price US $	Pb		
ISL95833HRTZ	Active	Hi-Temp Comm	32 Ld TQFN	3	—	✔		
ISL95833HRTZ-T	Active	Hi-Temp Comm	32 Ld TQFN T+R	3		✔		
ISL95833IRTZ	Active	Ind	32 Ld TQFN	3		✔		
ISL95833IRTZ-T	Active	Ind	32 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):

- EN Dual 2+1 PWM Controller for IMVP-7/VR12 CPUs

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
ISL95836	Dual 3+2 PWM Controller for IMVP-7/VR12™ CPUs
ISL95837	3+1 and 1+1 Voltage Regulator for IMVP-7/VR12™ CPUs

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