



# ISL95853

Multiphase PWM Regulator for IMVP8™ CPUs



DATASHEET

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OVERVIEW

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## Key Features

- Serial data bus
- Output configurable 3-, 2- or 1-phase using two integrated gate drivers
- Precision core voltage regulation
  - 0.5% system accuracy over temperature
  - Enhanced load line accuracy
- 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  $I_{CCMAX}$  and voltage transition slew rate
- Adaptive body diode conduction time reduction
- System input power monitor

## Description

The ISL95853, fully compliant with Intel IMVP8™ specifications, provides a complete solution for microprocessor core power supply. It also provides a Voltage Regulator (VR) with two integrated and one external gate drivers. The VR can be configured as 3-, 2- or 1-phase, providing maximum flexibility. The VR uses the serial control bus (SVID) to communicate with the CPU and achieves lower cost and smaller board area.

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 its ability to automatically change switching frequency.

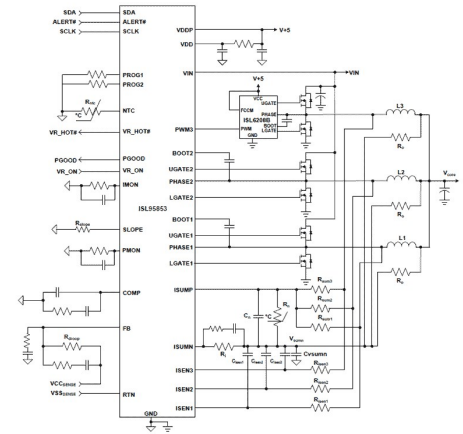
The ISL95853 has several other key features. The output supports DCR current sensing with single NTC thermistor for DCR temperature compensation or accurate resistor current sensing. The output comes with remote voltage sense, programmable  $V_{BOOT}$  voltage, programmable  $I_{CCMAX}$ , programmable voltage transition slew rate, adjustable switching frequency, overcurrent protection and power-good output.

## Applications

- Notebook computers
- Desktop computers

## TYPICAL DIAGRAM

ENLARGE













Purchase

Parameters	ISL95853
Max # of Outputs	1
Max # of Phases	3
V <sub>IN</sub> (min) (V)	4.5
V <sub>IN</sub> (max) (V)	25
V <sub>OUT</sub> (min) (V)	0.25
V <sub>OUT</sub> (max) (V)	1.52
I <sub>OUT</sub> (max) (A)	90
V <sub>BIAS</sub> (V)	4.75 to 5.25
VID	Yes
Applications	IMVP8
Droop	Yes
Integrated MOSFET Driver(s)	Yes

Alternatives		
ISL6261	ISL6266A	ISL9500
	1	1
	2	2
4.75	4.75	4.75
24	24	5.25
0.3	0.3	0.7
1.5	1.5	1.708
50	100	60
	4.75 to 5.25	4.75 to 5.25
Yes	Yes	Yes
IMVP-6	IMVP-6+	
	Yes	Yes
	No	Yes

## Devices

Part Number	Package Type	Weight(g)	Pins	MSL Rating	Peak Temp (°C)	RoHS Status
ISL95853HRZ-T	 32 Ld QFN T+R	0.05	32	3	260	 <a href="#">Details</a>
ISL95853HRZ	 32 Ld QFN	0.05	32	3	260	 <a href="#">Details</a>
ISL95853HRZ-TK	 32 Ld QFN T+R	0.05	32	3	260	 <a href="#">Details</a>
ISL95853IRZ	 32 Ld QFN	0.05	32	3	260	 <a href="#">Details</a>
ISL95853IRZ-T	 32 Ld QFN T+R	0.05	32	3	260	 <a href="#">Details</a>