

Features

- Single-to-quad output step-down integrated voltage regulator complete solution in 145mm²
 - No external discrete components
- 12A total continuous current / 25W output power
- 3.0V to 3.6V input voltage range
- 0.5V to 2.5V programmable output voltage
 - $\pm 1.5\%$ output voltage accuracy over PVT
- Ultra-wide bandwidth and ultra-fast transient response
- I2C interface for dynamic power management
 - Programmable soft-start and DVS
 - Multi-time programming (MTP) capability
- 2 multi-function GPIOs
 - Enable, Power OK, fault warnings, and on-demand DVS
- On-board programmable sequencing
- Telemetry for input/output voltage and temperature
- Extensive fault protection and warning
 - Over temperature, over/under input/output voltage and short-circuit protections
- 11 mm x 13.2 mm x 2.4 mm solution size

Applications

- Embedded systems
- Computer/Systems-on-Modules (CoMs/SoMs)
- Healthcare and medical
- FPGAs, DSPs and ASICs power system

Description

The EPM51xx series is a family of single to quad outputs high-performance DC/DC step-down Integrated Voltage Regulators (IVRs) capable of delivering up to 12A of current. It is optimized for high power density and space constrained applications and integrates all required components making it the simplest and fastest time to market power management solution with no additional external components required.

Operating from a nominal 3.3V input supply, the EPM51xx offers adjustable output voltages down to 0.5V while an ultra-fast control architecture achieves an ultra-wide bandwidth and industry's fastest transient response to current load steps. A standard I2C interface provides the system with full and dynamic control over all operating parameters: output voltages, soft-start rates, dynamic voltage scaling (DVS) as well as rail sequencing. On-board telemetry and point of load monitoring provide real time operating data and measurement on temperature and input and output voltages.

For seamless system integration, the EPM51xx also features two GPIOs that can be configured for multiple user-defined features and functions as well as offering an on-board nonvolatile memory that can store a custom configuration and settings.

Built-in over temperature, over/under input/output voltage and short circuit protections insure safe operations under abnormal operating conditions.

The EPM51xx series is offered in a 11 mm x 13.2 mm x 2.4 mm interposer solution (LGA package).

Typical Application

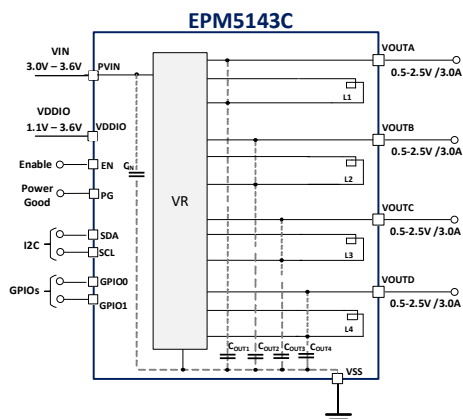


Figure 1: EPM5143 Typical Application Schematic

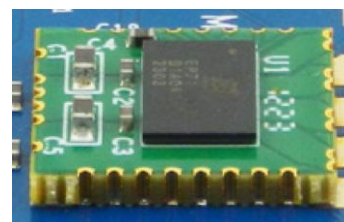


Figure 2: EPM5143 Interposer

EPM51xx IVR Series Product Family

Part Number	Description	Maximum current (A)			
		VR1	VR2	VR3	VR4
EPM5112B	Single Output IVR Interposer	12A	-	-	-
EPM5123B	Dual Output IVR Interposer	6A	6A	-	-
EPM5136B	Triple Output IVR Interposer	6A	3A	3A	-
EPM5143B	Quad Output IVR Interposer	3A	3A	3A	3A
EPM5144B	Quad Output IVR Interposer	1.5A	4.5A	4.5A	1.5A

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