Features

- Three Step-down Integrated Voltage Regulators (IVR): 9A, 1.5A, and 1.5A from 3.3V nominal VIN
- Zero discrete inductors or capacitors required
- Industry's highest current density: 340mA / mm^2
- Programmable output voltage: 0.5V to 2.5V
- Output voltage set point accuracy: ± 1.0% over PVT
- Ultra-fast transient response with no output caps
- Programmable fast DVS: up to 6 mV/ns
- Auto-phase shedding
- High efficiency and wide bandwidth
- Programmable GPIOs for user-defined features such as fault warnings, sequencing and DVS-on-demand
- Extensive fault protection, programming and warning: OVLO, UVLO, OVP, OCP, short-circuit
- Accurate current (± 8%), voltage (± 2%), and temperature reporting (± 4°C)
- Adjustable soft-start with low in-rush current
- Programmable power-up sequencing
- I2C interface to coordinate sequencing, telemetry, and diagnostics with system and SoC

Applications

- Optical Transceivers
- Memory Modules
- Network Equipment of Servers, Switching, Routing, Storage, Interface cards
- Server POL
- Client/Enterprise/Data Center SSD & NAS
- Artificial Intelligence (AI) Processors
- 5G applications

Description

The EP7139 is a high-performance highly Integrated Voltage Regulator (IVR) with three outputs totaling 12A that enables the full integration of multiple voltage rails all in one IC, eliminating all external components. Operating from a 3.3V input supply, the EP7139 offers the industry best density, efficiency, transient performance, and dynamic voltage scaling (DVS) from any system input voltage.

The multiple outputs are capable of 12A in total to provide flat efficiency curves and ultra-wide bandwidth.

The EP7139 offers extensive independent programmability for each of its outputs, requiring no external discrete components. Highly accurate telemetry, diagnostics, warnings, and protection as well as operating parameters such as output voltage, soft-start time and sequencing, and DVS ramp speed are all programmable via the I2C interface. The EP7139 also features configurable IO logic levels through the VDDIO pin to support a range of 1.1V to 3.6V, and a pair of configurable GPIOs to support multiple user-defined features. The EP7139 reduces PCB power management area and components by 10x or more, reduces system power loss by 10-50%, and reduces power routing complexity on the PCB.

Offered in a 5mm x 7mm x 0.70mm FcCSP package, the EP7139 is perfect for space constrained and thin profile applications. Die form is available.

Typical Application
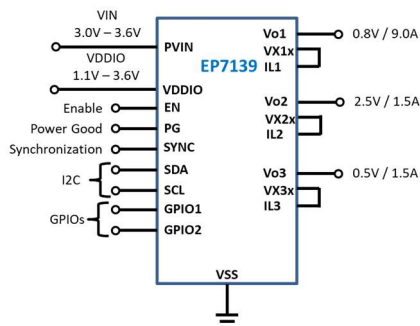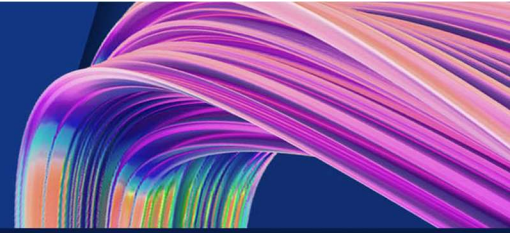
Data Sheet Notice & Legal Disclaimer

ADVANCE INFORMATION (engineering prototypes, meaning limited sample availability) or PRELIMINARY INFORMATION (preproduction or first production) are used to advise customers of additions to the product line that, nevertheless, still have "preproduction" status. Details may, therefore, change without notice although it is expected that preliminary performance data is representative of "full production" status. Contact your local sales office for details of current status and latest specifications.

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