

EP7015C Single Output Integrated Voltage Regulator IC

Features

- Step-down Integrated Voltage Regulator (IVR): 5A
- No discrete inductors or capacitors required
- Industry's highest current density: 0.4A / mm²
- Programmable output voltage: 0.40V to 1.31V
- Output voltage set point accuracy: $\pm 1.0\%$ over PVT
- Ultra-fast transient response with no output caps
- Programmable fast DVS: up to 12 mV/ns
- Programmable auto-phase shedding
- High efficiency and wide bandwidth
- Extensive fault protection, programming and warning: OVLO, UVLO, OVP, OCP, short-circuit
- Accurate current ($\pm 10\%$), voltage ($\pm 2\%$), and temperature reporting ($\pm 4^\circ\text{C}$)
- Adjustable, fast soft-start with low in-rush current
- Programmable power-up sequencing
- VR synchronization to external clock
- 28MHz I3C interface to coordinate sequencing, telemetry and diagnostics with system and SoC

Applications

- Server POL
- Optical transceiver SoCs & Modules
- Client/Enterprise/Data Center SSD & NAS
- Networking & Communication SoCs
- Artificial Intelligence (AI) Processors

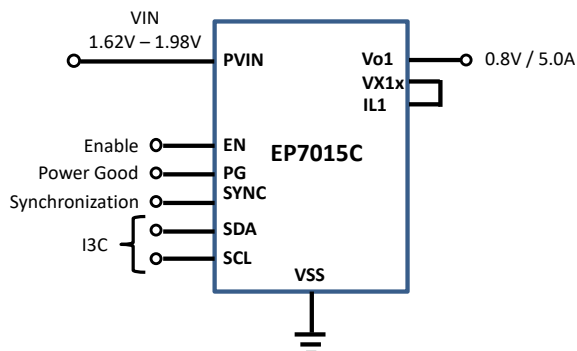
Description

The EP7015 is a high-performance highly Integrated Voltage Regulator (IVR) with a single 5A output in one IC, eliminating all external components. Operating from a 1.8V input supply, or as the 2nd stage of 2-stage conversion, the EP7015 offers the industry best density, efficiency, transient performance and dynamic voltage scaling (DVS) from any system input voltage.

The output is capable of 0.4V to 1.31V at 5A to provide flat efficiency curves and ultra-wide bandwidth. The EP7015 offers extensive independent programmability with no external discrete components required. Highly accurate telemetry, diagnostics, warnings and protection as well as operating parameters such as output voltage, soft-start time and sequencing, DVS ramp speed, and phase shedding are all programmable via the I3C interface. The EP7015 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 5mm x 0.75mm FcCSP package, the EP7015C is perfect for space constrained and thin profile applications. Die form is available.

Typical Application





Data Sheet Notice & Legal Disclaimer

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