

Features

- Two Integrated Voltage Regulators (IVR): 5A & 5A
- No discrete inductors or capacitors required
- PCB usage limited to outer layer through interposer
- Industry's highest current density: 0.125A / mm²
- Programmable output voltage: 0.5V to 1.2V
- Output voltage set point accuracy: $\pm 1.0\%$ over PVT
- Ultra-fast transient response with no output caps
- Programmable fast DVS: up to 6 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
- 28MHz I3C interface (compatible to I2C) 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

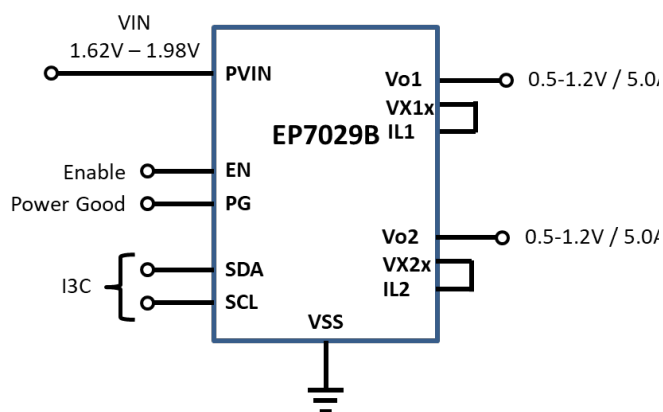
Description

The EP7029 is a high-performance highly Integrated Voltage Regulator (IVR) with two outputs totaling 10A that enables the full integration of multiple voltage rails all in one IC, eliminating all external components. Operating from a 1.8V input supply, the EP7029 offers the industry best density, efficiency, transient performance and dynamic voltage scaling (DVS) from any system input voltage.

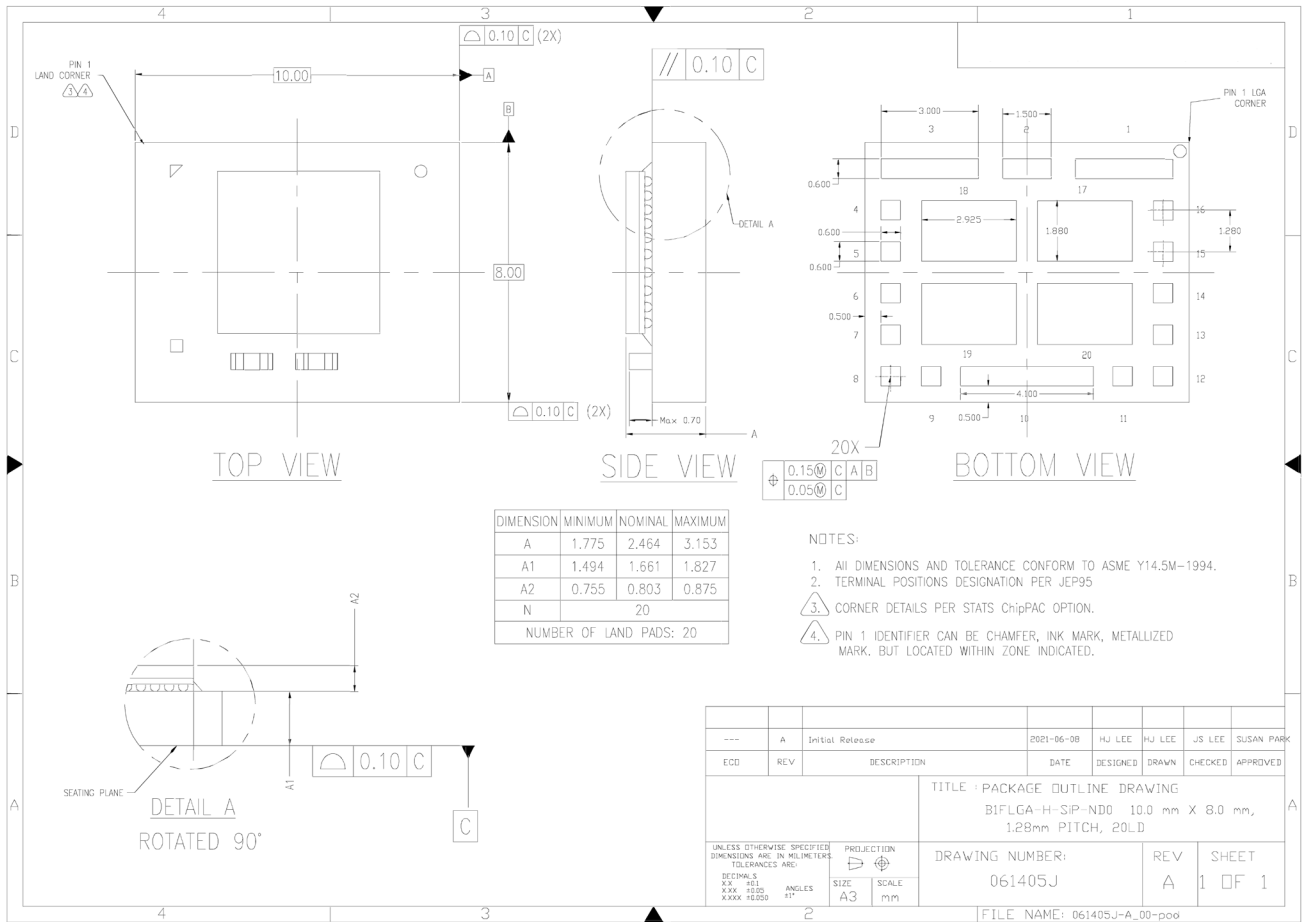
The two outputs are capable of 0.5V to 1.2V at 5A each to provide flat efficiency curves and ultra-wide bandwidth. The EP7029 offers extensive independent programmability for each of its outputs, requiring no external discrete components. Highly accurate telemetry, diagnostics, warnings and protection as well as operating parameters such as output voltage, soft-start time and sequencing, DVS ramp speed, and phase shedding are all programmable via the I3C interface. The EP7029 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 an 8mm x 10mm x 2.45mm LGA package, the EP7029B is perfect for space constrained and thin profile applications that are challenged by complexity. The interposer comprises the FcCSP IVR and all associated PCB design, therefore eliminating the need to use any inner layers on a system PCB, enabling the least complex designs.

Typical Application



Package Outline Drawing





Data Sheet Notice & Legal Disclaimer

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