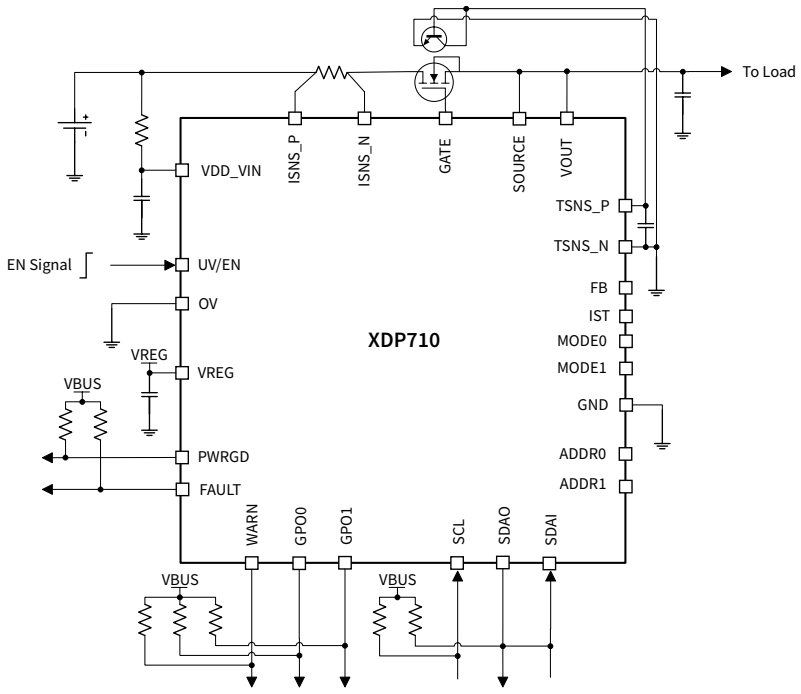


Product brief

XDP™ XDP710

5.5 V – 80 V hot swap controller with a programmable digital SOA

The XDP™ XDP710 is a wide input voltage hot-swap and system monitoring controller IC that drives a single or multiple parallel N-Channel MOSFETs. In addition to a controlled turn ON, XDP710 provides continuous system health monitoring and communication to the main MCU via PMBus interface. The high-speed communication through PMBus allows system designers to disable the downstream sub-systems fully or partially. It incorporates an extensive variety of system protections for safety operation and generates various protection responses depending on the severity of the incident. Latch off, reset, system shutdown and retry are some examples of response types. Its SOA protection effectively ensures that the system FET always operates under safe condition.



Key features

- Compatible with Infineon's OptiMOS™
- Compatible with Infineon's Linear FET wide input voltage range: 5.5 V to 80 V transient withstand: up to 100 V for 500 ms
- Option of external FET selection using resistor strapping
- Boost mode
- Dedicated current and voltage ADCs: 12-bit programmable and pre-set FET active SOA protection
- Advanced closed-loop SOA control and the fully digital operating mode
- Analog-Assisted Digital Mode for support of legacy systems
- Integrated gate driver and charge pump for external N-Channel MOS-FET configurable fast FET's shut down: two step turn-off or 1.5 A pull-down current
- PMBus interface: 1 MHz
- Precision input and output voltage monitoring and reporting: ≤ 1% pre-cision FET's current monitoring and reporting: ≤ 1%
- Precision input power monitoring and reporting: ≤ 2%
- Energy monitoring and reporting
- Programmable input OV and UV protections
- Support for external temperature sensor and OT protection
- Sequential turn-on capability
- 29-lead (6 mm x 6 mm) VQFN package
- -40°C to 125°C junction temperature

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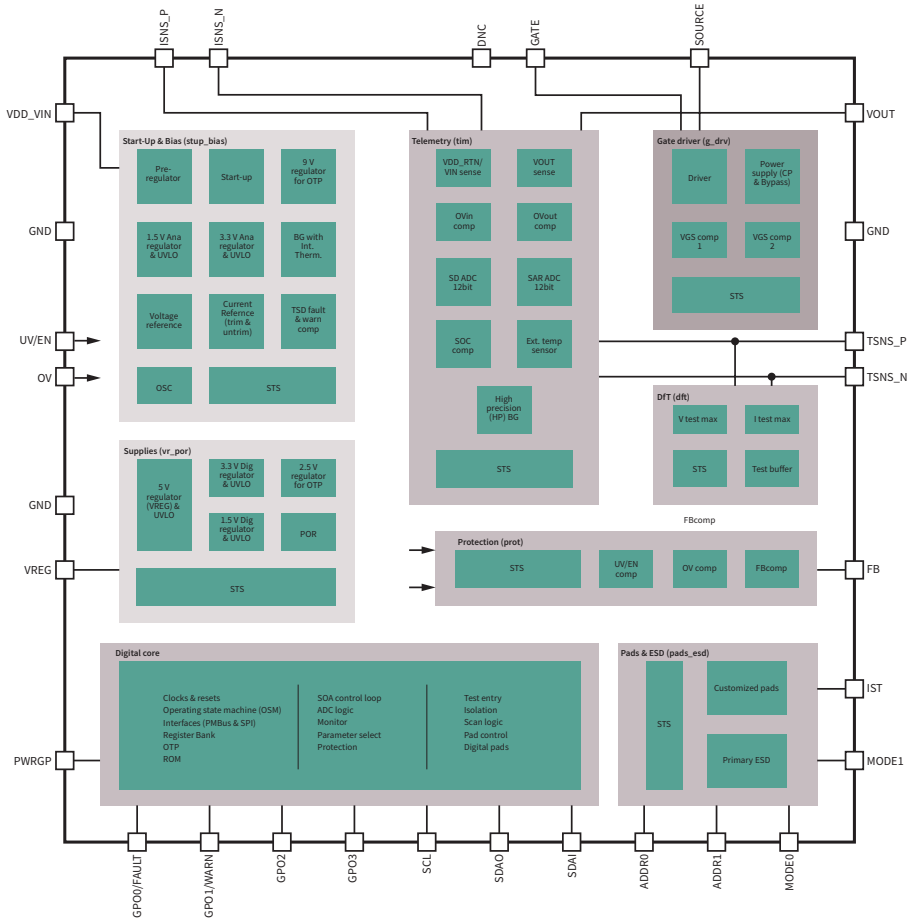

Key features

- Digital configuration reduces external components
- Analog-Assisted Digital Mode for support of legacy systems
- Multiple SOA configuration profiles in NVM reduces design time
- Input transient and MOSFET SOA protection enables the use of smaller FETs
- Small package

Potential applications

- AI, ML, GPU accelerator cards
- Network router and switches
- Intelligent e-fuse
- Power distribution systems
- 24 V - 48 V Industrial system

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