

P8610

Distributed Power Unit for P8620

The P8610 is a power management device used in conjunction with a Gen-2 DPS™ enabled host PMIC to implement output rails when connected to a PMIC's standalone controller channels. The device operates as a current source unit controlled by the host PMIC. Up to four P8610s can be used in parallel to create a multiphase rail with up to 29A of pulsed load current capability.

A proprietary single-wire Gen-2 DIF™ digital bus connects the Buck controller on the host PMIC to the P8610 distributed power units (DPUs) to provide control and exchange status information. The device seamlessly integrates into the PMIC ecosystem and is transparent from the user's point of view.

The P8610's DPU integrates advanced features that are user-programmable through the host PMIC to allow the DPU to be optimized for efficiency, transient response and standby power. The DPU also supports output current measurement, and includes safety and diagnostic functions to allow easy debug of an initial prototype system.

The P8610 is available in a small thermally enhanced 3.0 × 4.0 mm 12-DFN package.

Features

- Operates from a single 3.3V to 5.5V supply
- Output current up to 5A DC / 7.4A pulsed
- Switching frequency of 1MHz or 2MHz
- Supports up to four DPUs supplying the same rail
- Automatic DPU Multi-phasing – up to four phases
- Supports phase shedding and PFM mode
- Output voltage range of 0.5V to 3.6V
- 1-wire Gen-2 DIF bus interface to host PMIC
- Operating temperature range: -40°C to +85°C
- $3.0 \times 4.0 \times 0.9$ mm 12-DFN package

Applications

- Servers
- Solid state disks
- Embedded systems
- Industrial applications

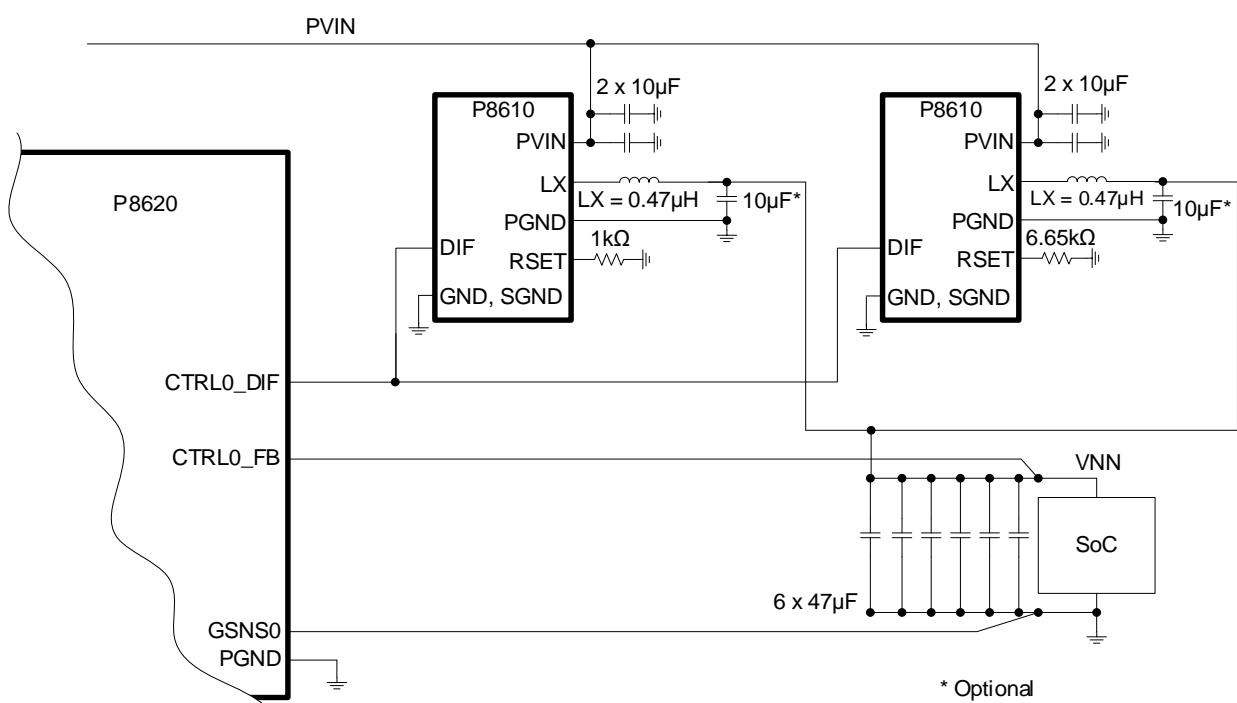


Figure 1. Typical Application Circuit including Connection to a P8620 Host PMIC

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