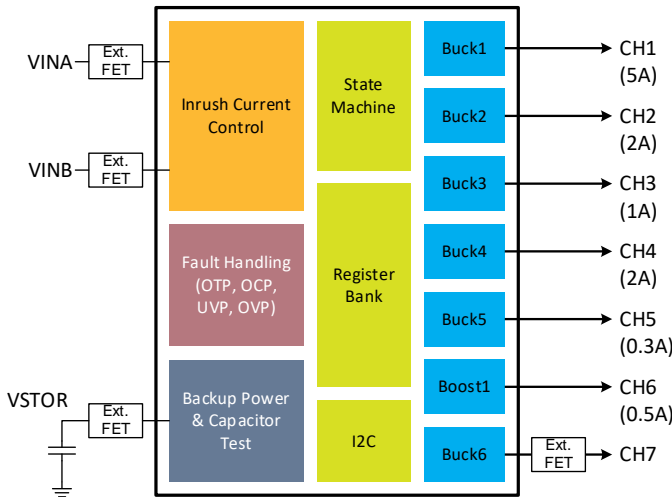# P8330

Single- or Dual-Input Multichannel SSD Power Management Solution

The P8330 is a multi-channel power management IC tailored for use in solid-state drive applications. It features multiple regulator outputs, inrush current control, and holdup power management functions.

The P8330 can be powered by single or dual 3.3V/5V and/or 5V/12V inputs, and provides a slew-rate limited turn-on for the external input switch. An I2C-compatible interface allows extensive programming and configuration of operating parameters. An internal multi-time programmable (MTP) memory allows permanent storage of configuration settings.

Simplified Block Diagram

Typical Applications

- Solid-state drives
- Capacitor-based backup power sources

Features

- Input Voltage Range:
  - 2.75V to 5.75V on SRCA
  - 2.75V to 15V on SRCB
- Operation with Single- or Dual-Input Supplies
- Multiple Output Regulator Channels
  - Six step-down regulators with internal MOSFETs (Channels 1, 2, 3, 4, and 5)
  - One step-down regulator with internal drivers for external MOSFETs (Channel 7)
  - One step-up regulator with internal MOSFETs (Channel 6)
- Wide Output Voltage Range on Each Channel:
  - CH1: 0.55V to 1.825V
  - CH2 - CH5: 0.55V to 3.7375V
  - CH6: 11V to 14.1V
  - CH7: 0.55V to 3.7375V
- External Regulator Enable Control and Monitor
- Integrated Holdup Power Manager with Drivers for External MOSFETs
- Integrated Inrush Current Control
- Comprehensive Fault Protection
  - Input Overvoltage Protection
  - Input Undervoltage Lockout
  - Output Overvoltage Protection
  - Output Undervoltage Protection
  - Output Overcurrent Protection
  - Over-temperature Protection
- Soft-start and Soft-stop on All Output Rails
- Reset Output
- Power Fail Interrupt Output
- General Interrupt Output
- I2C-compatible Interface
- Extensive Programmability and Configuration Via Internal Registers
- Internal MTP Memory
- Package: 8 × 8 mm 68-ld QFN

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