Integrated Device Technology

Highly Integrated PMIC for Enterprise SSD and Computing Applications

CLOCKS AND TIMING | INTERFACE AND CONNECTIVITY | MEMORY AND LOGIC | **POWER MANAGEMENT** | RF PRODUCTS

FEATURES AND BENEFITS:

- Six buck regulators
  - Two buck regulators (1 MHz) act as buck controllers to drive external MOSFETs for higher power applications
  - Four internal MOSFET buck regulators (2 MHz)
- Dual inputs (3.3 V, 5 V, 12 V)
- 25 W nominal output power
- Integrated 35 V-compliant power backup system for mission critical data center applications
- Integrated PFI (Power Failure Indicator) buck-boost regulator to support back up systems with 4.5 V to 35.5 V
- Faults: input OVP, output OVP, OCP, UV, Soft-start, Soft-stop, Over temperature protection
- Programmable power-loss detection threshold
- I²C/SMBUS compatible interface
- 7 mm x 7 mm 56-TQFN package

IDT's P8300 multi-channel power management IC (PMIC) is optimized for enterprise solid state drives (eSSD) and designed to speed time to market and revenue. This device is a flexible, highly programmable PMIC ideal for a broad set of data center, enterprise and high-performance computing applications.

The P8300 can shorten time to market by enabling the reuse of power management subsystems across multiple protocols–SAS, SATA and PCIe®–and form factors. Its unique IP delivers an effective power backup system that's been proven in the field, as well as stability proven in SSD products.

Output Regulator Channels Summary

Channel	Output Voltage Range (V)	Output Current with Internal FETs	Efficiency @ 100% Load	Efficiency @ 50% Load	Efficiency @ Light Load	Configurable By
CH1	2.7 to 3.6	2.9 V @ 3.5 A	81%	88%	77% @ 10 mA	Internal OTP and Register
CH2	0.7 to 1.5	1.35 V @ 2 A	77%	89%	81% @ 10 mA	Resistor Divider
CH3	1.2 to 3.6	1.8 V @ 1 A	84%	92%	78% @ 10 mA	Resistor Divider
CH4	1.2 to 1.8	1.5 V @ 1 A	82%	90%	74% @ 10 mA	Resistor Divider
CH5	1.3 to 2.0	1.8 V @ 1 A	84%	92%	77% @ 10 mA	Internal OTP and Register
CH6	1.5 to 3.3	2.1 V @ 0.5 A	93%	96%	79% @ 10 mA	Resistor Divider

To request samples, download documentation or learn more visit: **idt.com/P8300**

PB_P8300_PMIC_REVA_1115