



MP5505A

7V, 4A, High-Efficiency Energy Storage and Management Unit

DESCRIPTION

MP5505A is a lossless energy storage and management unit targeted at solid-state and hard-disk drive applications. Its highly integrated input-current limit and energy storage and release management makes the system solution very compact.

The internal input-current-limit block with dv/dt control prevents inrush current during system start-up; the bus voltage start-up slew rate is programmable. Also, it includes a power-on-reset function for hot-swapping. MPS' patented energy storage and release management control circuit minimizes the storage capacitor requirement. It pumps the input voltage to a higher storage voltage and releases the energy over a hold-up time to the system in the case of an input outage. The storage voltage and the release voltage are both programmable for different system applications.

The MP5505A requires a minimal number of readily available, standard, external components and is available in a QFN-20 (3mm×4mm) package.

FEATURES

- Wide 2.7V to 7V Operating Input Range
- Input-Current Limiter with Integrated 60mΩ MOSFET
- Up to 4.5A Input-Current Limit
- Reverse-Current Protection
- 6V Bus-Clamping Voltage
- Power-On-Reset
- Adjustable dv/dt Slew Rate for Bus Voltage Start-Up
- Internal 30mΩ Disconnect Switch
- Internal 70mΩ and 60mΩ Power Switches for Energy Storage and Release Management Circuits
- Thermal Protection
- EN and Power Good Indicators
- Available in a QFN-20 (3mm×4mm) Package

APPLICATIONS

- Solid-State Drives
- Hard-Disk Drives
- Power Back-Up/Battery Hold-Up Supplies

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TYPICAL APPLICATION

