

DESCRIPTION

The MP3429 is a 600kHz, fixed-frequency, wide input range, highly integrated, boost converter. The MP3429 starts from an input voltage as low as 2.7V and supports up to 30W of load power from a 1-cell battery with integrated low RDS(ON) power MOSFETs.

The MP3429 adopts constant-off-time (COT) control topology, which provides fast transient response. MODE supports the selection of pulse-skip mode (PSM), forced continuous conduction mode (FCCM), and ultrasonic mode (USM) in light-load condition. The cycle-by-cycle current limit on the low-side MOSFET prevents current runaway, and the high-side MOSFET eliminates the need for an external Schottky diode. Full protection features include programmable input under-voltage lockout (UVLO) and over-temperature protection (OTP).

The MP3429 is available in a QFN-13 (3mmx4mm) package.

FEATURES

- 2.7V to 13V Start-Up Voltage
- 0.8V to 13V Operating Voltage
- Up to 16V Output Voltage
- Supports 30W Average Power Load and 40W Peak Power Load from 3.3V
- 21.5A Internal Switch Current Limit
- Integrated 6.5mΩ and 10mΩ Power MOSFETs
- >95% Efficiency for 3.6V VIN to 9V/3A
- Selectable PSM, >23kHz USM, and FCCM in Light-Load Condition
- 600kHz Fixed Switching Frequency
- Adaptive COT for Fast Transient Response
- External Soft Start and Compensation Pins
- Programmable UVLO and Hysteresis
- 150°C Over-Temperature Protection (OTP)
- Available in a QFN-13 (3mmx4mm) Package

APPLICATIONS

- Notebooks
- Bluetooth Speakers
- Portable POS Systems
- Quick-Charge Power Banks

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TYPICAL APPLICATION

