2MHz 5V Input 3A Synchronous Buck-Boost Converter

DESCRIPTION

The MT5635 is a 2MHz, low quiescent current synchronous buck-boost converter with 3A inductor current capability. The device can operate with input voltage below, equal or above output voltage, provides power solution for systems with single cell Li-Ion battery or multi-cell alkaline battery.

The MT5635 uses a proprietary control architecture for high efficiency operation with smooth transition between BUCK, BOOST and BUCKBOOST modes. MT5635 can operate with input voltage from 1.7V to 5.5V and provide output voltage from 2V to 5V. At light load, the device operates in PFM mode to minimize power consumption and extend battery life.

The MT5635 has extensive protection functions with built in cycle-by-cycle peak current protection, over temperature protection, over voltage protection, under voltage lock out and short circuit protection. MT5635 comes with small footprint TSOT23_8L and DFN3x3_8L package.

FEATURES

- Input voltage range from 1.7V to 5.5V
- 2MHz switching frequency
- 45uA low I_Q with power save mode
- Proprietary hybrid control architecture
- Small solution size with minimum external components
- 3A Cycle-by-cycle peak current limit
  1.2A output current for V_{IN} > 2.7V, V_{OUT}=3.3V
  1A output current for V_{IN} > 2.5V, V_{OUT}=3.3V
- Thermal Shutdown
- TSOT23_8L and DFN3x3_8L Package
- Pb-Free ROHS compliant

APPLICATIONS

- Battery powered system
- TWS charging box
- Portable devices
- POS System

TYPICAL APPLICATION