



The Future of Analog IC Technology

# MP5423

## 100V Power Management IC

### with 300mA Buck Converter and Two LDOs

PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE

### DESCRIPTION

The MP5423 is a high input voltage power management IC with one buck converter and two LDOs. It is designed for small size & high integration electric-bike control board power management. Integrated buck and LDOs minimize the system components.

The Buck converter adopts peak current mode control, providing 300mA current for load and downstream LDO regulators, while the following LDOs provide 5V and 3.3V regulated power source to system. The current-mode buck converter provides fast transient response and cycle-by-cycle switching current limit. All output voltages are fixed internally with little external components.

The MP5423 features a lot of protection including: VIN ULVO, cycle-by-cycle buck current limit, SCP and OTP.

The MP5423 is available in SOIC8-EP package.

### FEATURES

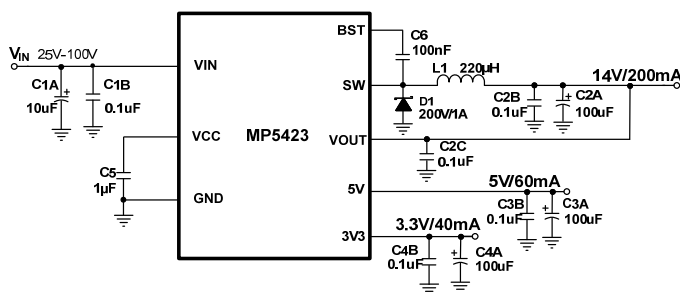
- 25V to 100V Input Operation Voltage
- Fixed 14V, 5V, 3.3V Output Voltage
- Buck Converter
  - 14V  $\pm$ 2% Output Voltage
  - 650mA Switching Current Limit
  - 1.45 $\Omega$  Buck High-side MOSEFT
  - 200kHz Switching Frequency
  - Frequency Stretch Down in SCP
- 5V LDO Regulator
  - 100mA Total Load Capability
  - 5.04V  $\pm$ 2% Output Voltage
  - Current Limit Flodback in SCP
- 3.3V LDO Regulator
  - 40mA Load Capability
  - 3.3V  $\pm$ 1% Output Voltage
  - Current Limit Flodback in SCP
- 170°C OTP Protection
- SOIC8-EP Package

### APPLICATIONS

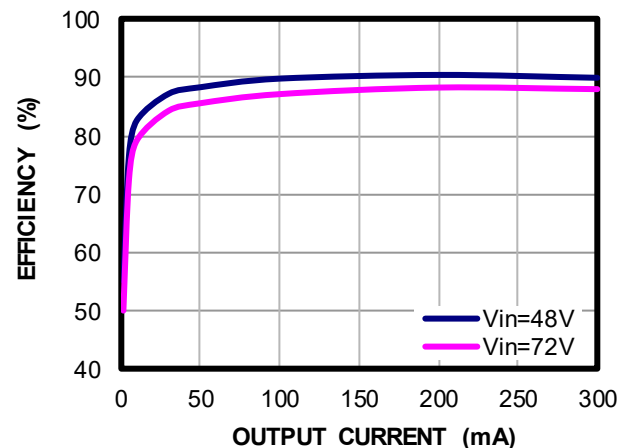
- Electric-Bike Power Management
- Motor Driver Control Board Power Supply

All MPS parts are lead-free, halogen free, and adhere to the RoHS directive. For MPS green status, please visit MPS website under Quality Assurance. "MPS" and "The Future of Analog IC Technology" are Registered Trademarks of Monolithic Power Systems, Inc.

### TYPICAL APPLICATION



#### Buck Efficiency vs. Output Current



### ORDERING INFORMATION

Part Number	Package	Top Marking
MP5423GN	SOIC8-EP	See below

\* For Tape & Reel, add suffix -Z (e.g. MP5423GN-Z)

### TOP MARKING

**MP5423**  
**LLLLLLLL**  
**MPSYWW**

MPS: MPS prefix  
 Y: year code  
 WW: week code  
 MP5423: part number  
 LLLLLLLL: lot number

### PACKAGE REFERENCE

