



The Future of Analog IC Technology®

# MP28167

## 2.8V-22V Vin, 3A Iout, 4-Switch Integrated Buck-Boost Converter

**PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE**

### DESCRIPTION

The MP28167 is a synchronous 4-switch integrated buck-boost converter, which is capable of regulating the output voltage from 2.8V to 22V wide input voltage range with high efficiency.

MP28167 uses constant-on-time control in buck mode and constant-off-time control in boost mode, providing fast load transient response as well as smooth buck-boost mode transient. MP28167 provides forced PWM switching mode, programmable output CC(Constant Current) current limit which supports flexible design for different applications.

The MP28167 also features with OCP/OVP/UVP, and thermal shutdown protection.

The MP28167 is available in a 16-pin QFN(3mmx3mm) package.

### FEATURES

- Wide 2.8V to 22V Operating Input-Voltage Range
- Fixed 5V Output Voltage
- 3A Output Current or 4A Input Current
- 130mV Line Drop Compensation
- 500kHz Fixed Switching Frequency
- Forced PWM Switching Mode
- Four Low  $R_{DS(ON)}$  Internal Buck Power MOSFETs
- Adjustable Accurate CC Output-Current Limit with Internal Sensing FET
- Output Over-Voltage Hiccup Protection
- Output Short Circuitry Hiccup Protection
- Over Temperature Shutdown
- EN Shutdown Discharge Function
- Available in a QFN-16 (3mmx3mm) Package

### APPLICATIONS

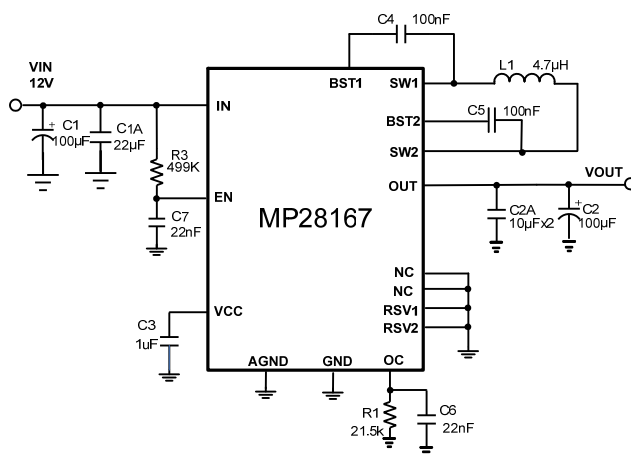
- USB PD Sourcing Port
- Buck-Boost Bus Supply

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.

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\* For  $V_{out} < 3V$  application, the switching frequency will decrease.

### TYPICAL APPLICATION



### Efficiency vs. Output Current

$V_{in}=12V, V_{out}=5V$

