

MCP1665

High-Voltage 3.6A Integrated Switch PFM/PWM Boost Regulator

General Information

The MCP1665 device is a compact, high-efficiency, fixed-frequency, non-synchronous step-up DC-DC converter that integrates a 36V, 100 mΩ NMOS switch. It provides a space-efficient high-voltage step-up power supply solution for applications powered by either three-cell alkaline, Ultimate Lithium, NiCd, NiMH, one-cell Li-Ion or Li-Polymer batteries.



Features

- 36V, 100 mΩ integrated switch
- Up to 92% efficiency
- Output voltage range: up to 32V
- 3.6A typical peak input current limit
- Input voltage range: 2.9V to 5V
- No load input current: 250 μA (PFM), 500 μA (PWM)
- Shutdown mode with 0.4 μA typical quiescent current
- Automatically PFM/PWM or selected by the MODE pin
- 500 kHz switching frequency
- Internal compensation
- Inrush current limiting and internal soft start
- Output Overvoltage Protection (OVP) and Open-Load Protection (OLP)
- Thermal shutdown
- 10-Lead 2 mm x 2 mm VQFN package

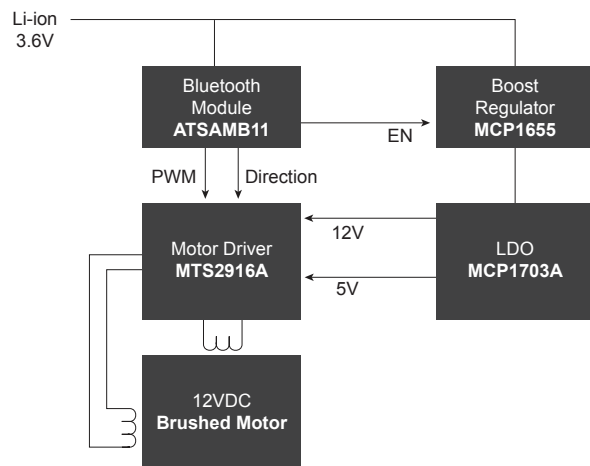
Applications

- 3-cell alkaline powered applications
- Single-cell Li-ion powered applications
- Hand held instruments
- Industrial sensors
- Backlighting
- Portable LED lighting
- Photodiode biasing

Benefits

- MCP1665 is 55% smaller in area than its closest competitors
- Works with small ceramic capacitors, providing for smaller solution
- Pin selectable MODE pin provides flexibility to enhance noise performance or efficiency in light load conditions
- Easily configurable for alternative topologies
 - Single-Ended Primary Inductor Converter (SEPIC)
 - Ćuk
 - Flyback

Li-ion Powered Bluetooth DC Motor System



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