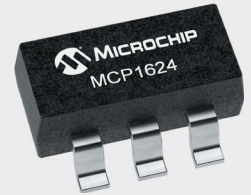


## MCP1624

### Low-Voltage Input Boost Regulator for PIC® Microcontrollers

#### General Information

The MCP1624/3 are compact, high-efficiency, fixed frequency, synchronous step-up DC-DC converters. Both provide an easy-to-use power supply solution for applications powered by either one/two/three-cell alkaline, NiCd, NiMH, one-cell Li-Ion or Li-Polymer batteries. The MCP1623/24 can be paired with any PIC® microcontroller bringing flexible intelligence to any single-cell or low-voltage application. A “true” Load Disconnect mode provides input to output isolation while disabled (EN = GND) by removing the normal boost regulator diode path from input to output. This mode consumes less than 1  $\mu\text{A}$  of input current. For standby applications, the MCP1624 operates and consumes only 19  $\mu\text{A}$  while operating at no load.



#### Features

- Up to 96% typical efficiency
- 425 mA typical peak input current limit:
  - $\text{I}_{\text{OUT}} > 50 \text{ mA}$  @ 1.2V  $\text{V}_{\text{IN}}$ , 3.3V  $\text{V}_{\text{OUT}}$
  - $\text{I}_{\text{OUT}} > 175 \text{ mA}$  @ 2.4V  $\text{V}_{\text{IN}}$ , 3.3V  $\text{V}_{\text{OUT}}$
  - $\text{I}_{\text{OUT}} > 175 \text{ mA}$  @ 3.3V  $\text{V}_{\text{IN}}$ , 5.0V  $\text{V}_{\text{OUT}}$
- Low start-up voltage: 0.65V
- Operating input voltage: 0.35V to 5.5V
- Adjustable output voltage range: 2.0V to 5.5V
- Maximum input voltage  $< \text{V}_{\text{OUT}} < 5.5\text{V}$
- Automatic PFM/PWM operation
- PWM operation at 500 kHz
- Low device quiescent current: 19  $\mu\text{A}$  – typical PFM mode

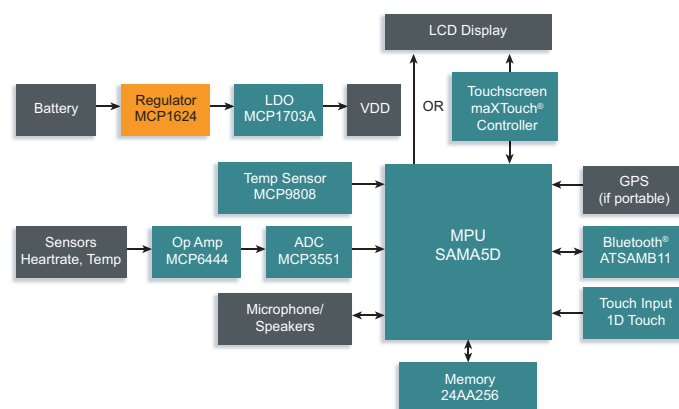
#### Applications

- One to three cell operated devices
- IoT devices
- Wearable devices
- Handheld gaming devices

#### Benefits

- Protection and compensation circuitry are integrated to minimize external components
- Integrated EMI protection optimizes performance without external components
- Small packaging lowers system cost with lower PCB footprint

#### Fitness Equipment



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