ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change. 8/97

sheet is preliminary 1-Cell to 3-Cell, High-Power (2A), Low-Noise Step-Up DC-DC Converter

General Description

The MAX1703 is a high-efficiency, low-noise, step-up DC-DC converter. This device is intended for use in battery-powered wireless applications. It uses a synchronous-rectifier pulse-width-modulation (PWM) boost topology to generate a 2.7V to 5V output from battery inputs such as one to three NiCd/NiMH cells or one Li-lon cell. It has an internal 2A, 50m Ω , N-channel MOSFET switch and a 100m Ω , P-channel synchronous rectifier.

With its internal synchronous rectifier, the MAX1703 delivers 5% better efficiency than similar nonsynchronous converters. It also features a pulse-frequency-modulation (PFM) standby mode to improve efficiency at light loads, and a 1 μ A shutdown mode.

The MAX1703 comes in a 16-pin narrow SO package and includes an uncommitted comparator to generate a power-good or low-battery warning output. It also contains a linear-gain block that can be used to build a linear regulator using an external P-channel pass device.

For lower-power outputs and a smaller package, refer to the MAX1700/MAX1701. For dual outputs (step-up plus linear regulator), refer to the MAX1705/MAX1706. For an on-board analog-to-digital converter, refer to the MAX848/MAX849.

The MAX1703 evaluation kit is available to speed designs.

_Features

MAX1703

- ♦ 92% Efficiency from 3V Input to 5V Output
- Guaranteed 1A Output at 5V from 3V Input
- Up to 1.5A Output
- Fixed 5V or Adjustable Step-Up Output (2.7V to 5V)
- + 0.8V to 5.5V Input Range
- Low-Power (300µW) Standby Mode
- Low-Noise, Constant-Frequency Mode (300kHz)
- Switching Frequency Synchronizable (200kHz to 400kHz)
- 1µA Logic-Controlled Shutdown
- Power-Good Comparator
- Uncommitted Op-Amp Gain Block

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX1703C/D	0°C to +70°C	Dice
MAX1703ESE	-40°C to +85°C	16 Narrow SO

Pin Configuration



_ Maxim Integrated Products 1

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Applications

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PCS Phones

- Wireless Handsets
- Two-Way Pagers
- Personal Communicators
- Palmtop Computers
- Hand-Held Instruments

1-Cell to 3-Cell, High-Power (2A), Low-Noise Step-Up DC-DC Converter

_Typical Operating Circuit



M/XI/M