

# ADVANCE INFORMATION

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

8/97



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

### General Description

The MAX1700/MAX1701 are high-efficiency, low-noise, step-up DC-DC converters. They are intended for use in battery-powered wireless applications. They use a synchronous-rectifier pulse-width-modulation (PWM) boost topology to generate 2.7V to 5V outputs from battery inputs such as one to three NiCd/NiMH cells or one Li-Ion cell. Both devices have an internal 5A, 100mΩ N-channel MOSFET switch and a 150mΩ P-channel synchronous rectifier.

With their internal synchronous rectifier, the MAX1700/MAX1701 deliver 5% better efficiency than similar non-synchronous converters. They also feature a pulse-frequency-modulation (PFM) standby mode to improve efficiency at light loads and a 5μA shutdown mode.

The MAX1700/MAX1701 come in 16-pin QSOP packages (which occupy the same space as an 8-pin SO). The MAX1701 includes two comparators to generate power-good and low-battery warning outputs. It also contains a linear-gain block that can be used to build a linear regulator using an external P-channel pass device.

For higher-power outputs, refer to the MAX1703. For dual outputs (step-up and linear regulator), refer to the MAX1705/MAX1706. For an on-board analog-to-digital converter, refer to the MAX848/MAX849.

The MAX1701EVKIT evaluation kit is available to speed designs.

### Applications

Digital Cordless Phones  
PCS Phones  
Wireless Handsets  
Two-Way Pagers  
Personal Communicators  
Palmtop Computers  
Hand-Held Instruments

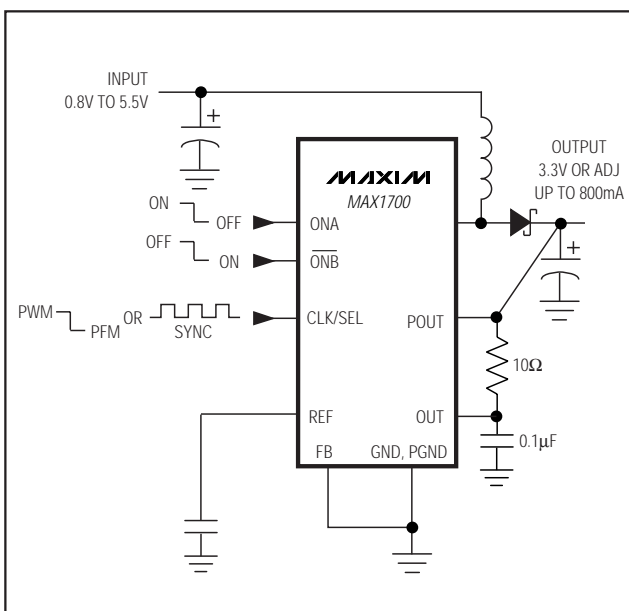
### Features

- ♦ Up to 96% Efficiency
- ♦ 1VIN Guaranteed Start-Up
- ♦ 0.8V to 5.5V Input Range
- ♦ Up to 800mA Output
- ♦ Step-Up Output (adjustable from 2.7V to 5.5V)
- ♦ PWM/PFM Synchronous-Rectified Topology
- ♦ External Clock or Internal 300kHz Oscillator (guaranteed ±14%)
- ♦ 5μA Logic-Controlled Shutdown
- ♦ Power-Good Output (MAX1701)
- ♦ Low-Battery Comparator (MAX1701)
- ♦ Multi-Use Uncommitted Gain Block (MAX1701)

### Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX1700C/D	0°C to +70°C	Dice
MAX1700EEE	-40°C to +85°C	16 QSOP
MAX1701C/D	0°C to +70°C	Dice
MAX1701EEE	-40°C to +85°C	16 QSOP

### Typical Operating Circuit



Maxim Integrated Products 1

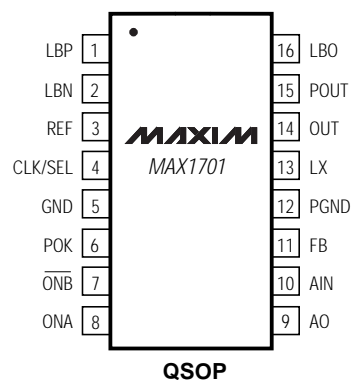
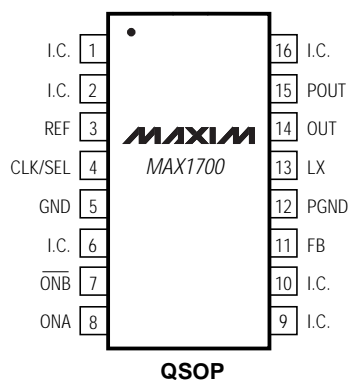
For free samples & the latest literature: <http://www.maxim-ic.com>, or phone 1-800-998-8800  
For small orders, phone 408-737-7600 ext. 3468.

MAX1700/MAX1701

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## Pin Configurations

TOP VIEW



I.C. = INTERNAL CONNECTION. DO NOT CONNECT TO THIS PIN.