

ADVANCE INFORMATION

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

6/95

EVALUATION KIT WILL BE AVAILABLE

MAXIM

Dual, PFM, Step-Up DC-DC Controller

MAX863

General Description

The MAX863 dual-output DC-DC converter contains two independent, high-efficiency, current-limited PFM (pulse-frequency-modulated) boost controllers integrated on one space-saving circuit. It accepts inputs down to 1.5V and is intended for use in small, hand-held equipment powered from two or three battery cells or one lithium ion cell. The MAX863 comes in a miniature 16-pin QSOP that fits in the same area as a standard 8-pin SO.

Each output can be set to any boosted voltage using two external resistors. One of the outputs also uses the Dual-Mode™ feature, which allows a 3.3V or 5V output. Both controllers drive inexpensive, external N-channel MOSFETs at up to 300kHz, permitting small external components.

The MAX863 extends battery life with 82% efficiency over a 20mA to 1A output range. It also saves battery life with a low 65µA (max) quiescent supply current, even when both supplies are on. A separate logic-controlled shutdown for each converter allows power-management flexibility and decreases supply current to just 1µA (max).

Other features include soft-start to prevent surge currents when powering up, and a built-in LBI/LBO low-battery detector. The MAX863 evaluation kit (MAX863 EVKIT-SO) is available to assist with designs. For a single-output controller, refer to the MAX1771 data sheet.

Applications

- 2 or 3 Cell Portable Equipment
- Organizers, PDAs, and Palmtops
- Dual 3.3V/5V Logic and Positive LCD Supply
- Flash Memory Programmers
- Split 3.3V Logic and 5V Memory Systems

Features

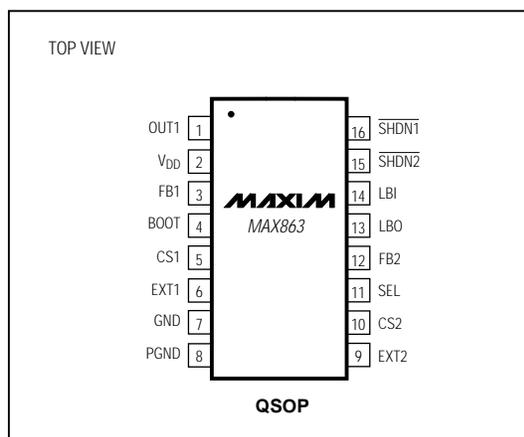
- ◆ **Smallest Dual Boost Controller**
- ◆ **16-Pin QSOP Fits in 8-Pin SO Area**
- ◆ **High Efficiency (>80% from 20mA to 1A)**
- ◆ **65µA (max) Quiescent Supply Current**
- ◆ **1µA (max) Shutdown Current**
- ◆ **LBI/LBO Low-Battery Detector**
- ◆ **Drives Surface-Mount, Dual N-Channel FET**
- ◆ **2 or 3 NiCd/NiMH Cell or 1 Lithium Cell Operation**
- ◆ **Also Configurable as Step-Up/Down Controller**

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX863C/D	0°C to +70°C	Dice*
MAX863IKE	-25°C to +85°C	16 QSOP
MAX863EKE	-40°C to +85°C	16 QSOP

*Dice are tested at $T_A = +25^\circ\text{C}$.

Pin Configuration



Dual Mode is a trademark of Maxim Integrated Products.

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Call toll free 1-800-998-8800 for free samples or literature.

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Typical Operating Circuit

