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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Smallest, All-Internal MOSFET, 7-Channel 2 AA DSC PMIC

MAX8857A

General Description

The MAX8857A PMIC provides a complete power-supply solution for digital still cameras (DSCs) and digital video cameras (DVCs). The MAX8857A improves performance, component count, and board space utilization compared to currently available solutions for 2 AA cell and dual-battery designs. On-chip power MOSFETs provide up to 95% efficiency for critical power supplies. The CCD inverter can operate directly from 2 AA/NiMH batteries without the use of any additional external components.

- Step-up synchronous-rectified DC-DC converter (SU). The MAX8857A is bootstrapped from V_{SU}.
- MAIN synchronous-rectified step-up DC-DC converter (M) with active discharge for DSP I/O supply voltage.
- SDZ synchronous-rectified step-down DC-DC converter (Z) for DSP DDR supply voltage.
- Low-voltage (down to 1V) synchronous-rectified step-down DC-DC converter (SD) for DSP core supply voltage.
- Step-up DC-DC converter with current regulation and PWM dimming control (LEDBST) for up to 6 series white LEDs (WLED).
- High-voltage step-up DC-DC converter (CCDBST) for CCD imagers or positive LCD bias supplies.
- Transformerless inverting DC-DC converter (CCDINV) for CCD imagers or negative LCD bias supplies. **This converter can connect directly to 2 AA batteries.**

The MAX8857A has an independent/simultaneous power-on sequence of the CCDBST and CCDINV converters. For a preset power-on sequence of CCDBST before CCDINV, contact the factory.

The MAX8857A is available in a 5mm x 5mm, 40-pin thin QFN package and operates over the -40°C to +85°C extended temperature range.

Applications

- DSCs and DVCs
- PDA's and Portable Media Players

Ordering Information

PART	TEMP RANGE	PIN-PACKAGE	PKG CODE
MAX8857AETL+	-40°C to +85°C	40 Thin QFN-EP*	T4055-2
MAX8857AETL+TCBR	-40°C to +85°C	40 Thin QFN-EP*	T4055-2

+Denotes a lead-free package.

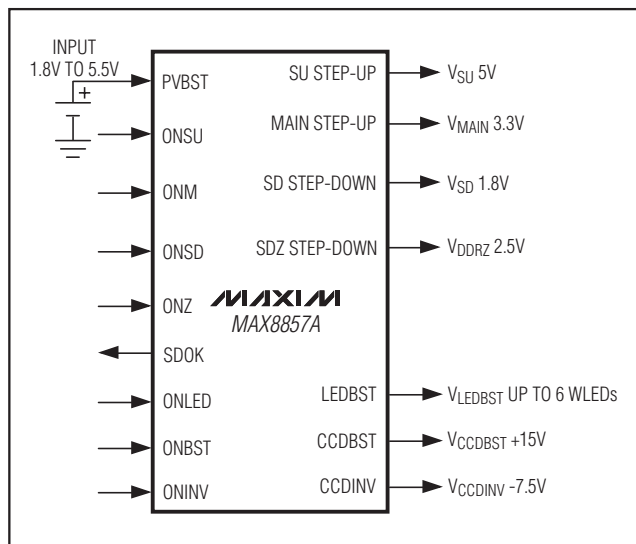
*EP = Exposed paddle.

Note: Contact factory for the option where CCDBST must reach regulation before the INV converter can be turned on.

Features

- ◆ 95% Efficient Synchronous-Rectified DC-DC Converters
- ◆ 90% Efficient Boost-Buck Operation
- ◆ Up to 85% Efficient, High-Voltage DC-DC Converters
- ◆ Inverter Operates Directly from 2 AA Batteries
- ◆ Internal Compensation on All Channels
- ◆ True Shutdown™ on All Step-Up Converters
- ◆ Overload Protection
- ◆ Startup into Short Protection
- ◆ Soft-Start for Controlled Startup Current
- ◆ 100% Duty Cycle on Step-Down Converters
- ◆ Regulated Current Output for Up to 6 White LEDs
- ◆ PWM Dimming of WLED Current
- ◆ Adjustable LED Overvoltage Protection Up to 27V
- ◆ Transformerless Inverting Converter for CCD
- ◆ 2MHz ±2.5% Switching Frequency
- ◆ 1µA Shutdown Supply Current
- ◆ CCD Voltage Sequencing
- ◆ All Internal Power MOSFETs
- ◆ SDOK Power-OK Indicator

Typical Operating Circuit



Pin Configuration appears at the end of data sheet.

True Shutdown is a trademark of Maxim Integrated Products, Inc.



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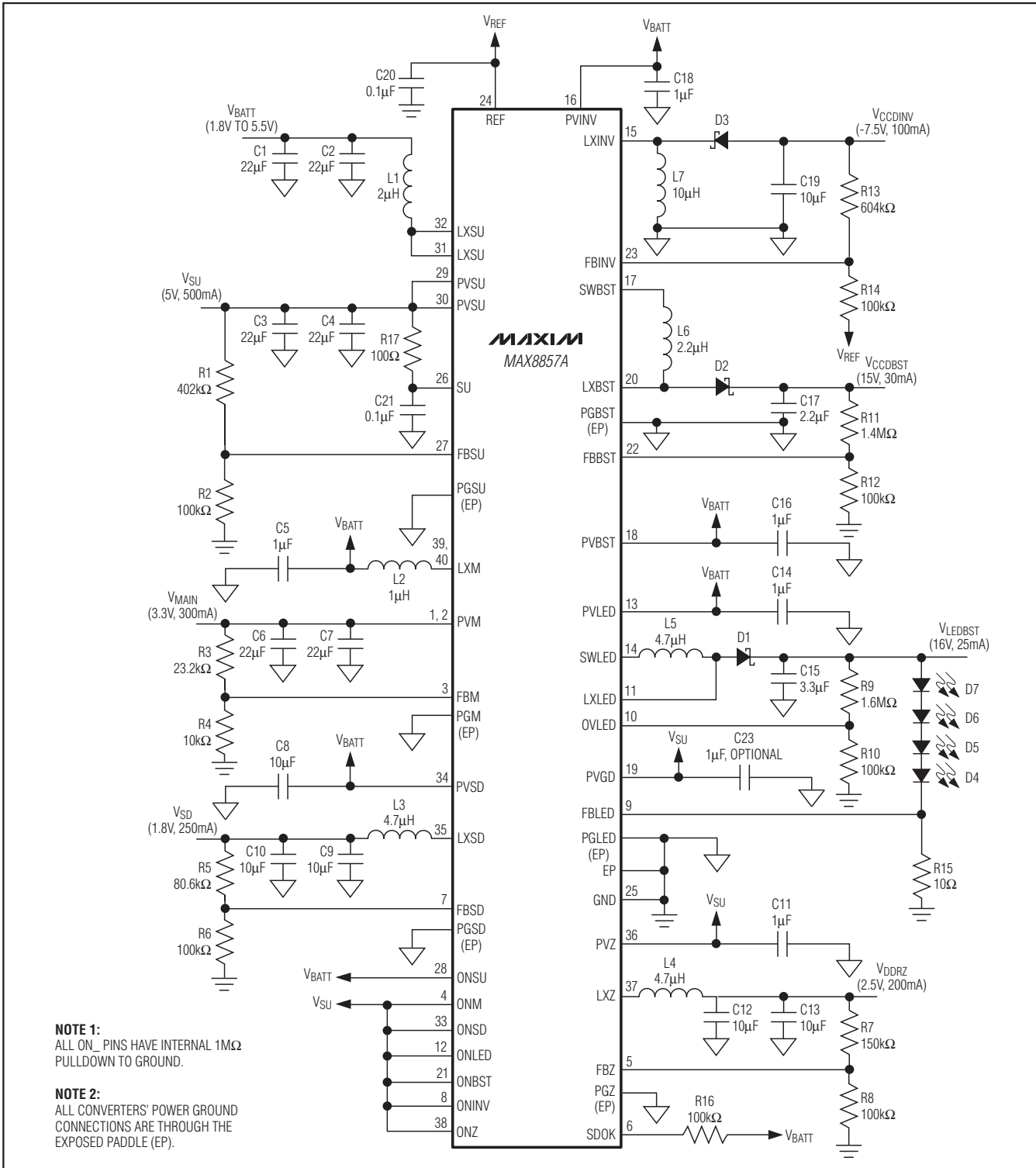


Figure 1. MAX8857A Typical Application Circuit