

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

8/97



3.3V to Regulated 5V Charge Pumps

General Description

The MAX682/MAX683/MAX684 generate a regulated 5V output voltage from 3V to 5.5V inputs. Only three capacitors are required to build a complete DC-DC converter. These devices use a regulating charge-pump doubler to generate a minimum of 50mA, 100mA, and 200mA, respectively. High switching frequency (up to 2MHz) and a unique regulation scheme permit the use of capacitors as small as 1μF per 100mA of load current.

The MAX682/MAX683/MAX684's voltage conversion requires no inductors, so the application circuits are small and low cost. The switching frequency is set using an external resistor. These DC-DC converters can be set by pin programming for either low-quiescent-current or low-noise operation. In logic-controlled shutdown, the input is disconnected from the load.

Applications

PCMCIA Cards

Flash Memory Supplies

Battery-Powered Applications

3.3V to 5V Local Conversion Applications

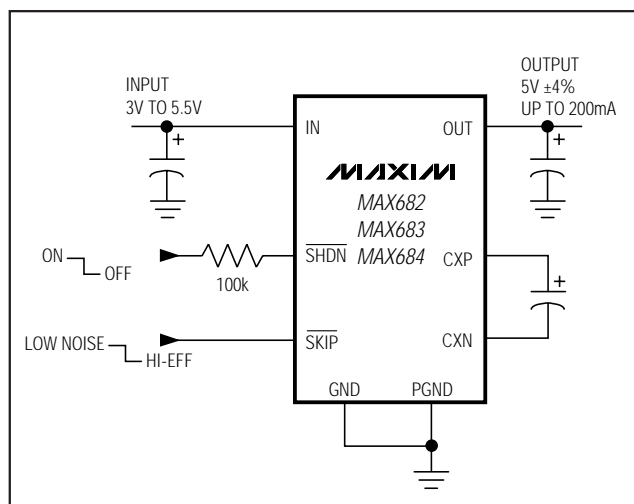
Miniature Equipment

Local 3.3V to 5V Supplies

3V to 5V GSM SIMM Cards

Backup-Battery Boost Converters

Typical Operating Circuit



Features

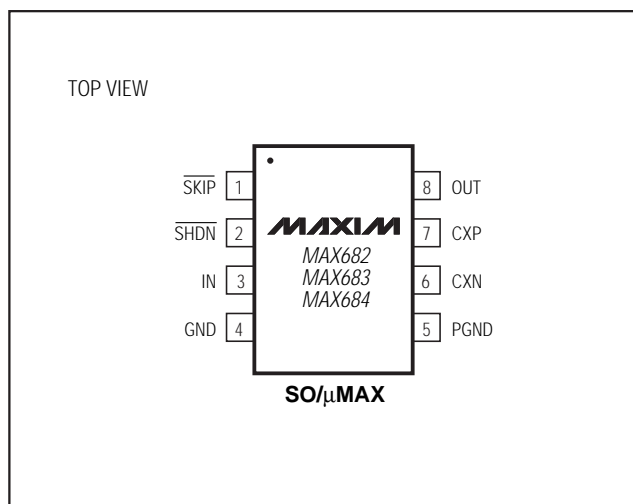
- ✦ Ultra-Small Size: 1 μ F Capacitor/100mA Load
- ✦ No Inductors Required
- ✦ 1.1mm-High μ MAX Package (MAX683/MAX684)
- ✦ 50mA (MAX684), 100mA (MAX683), or 200mA (MAX682) Output Current
- ✦ Regulated 5V \pm 4% Output Voltage
- ✦ 50kHz to 2MHz Switching Frequency
- ✦ 3V to 5.5V Input Voltage
- ✦ 5 μ A (max) Shutdown Current
- ✦ Low Quiescent Current (100 μ A) or Low-Noise Constant-Frequency Operation
- ✦ Load Disconnected from Input in Shutdown

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX682C/D	0°C to +70°C	Dice*
MAX682ESA	-40°C to +85°C	8 SO
MAX683C/D	0°C to +70°C	Dice*
MAX683EUA	-40°C to +85°C	8 µMAX
MAX684C/D	0°C to +70°C	Dice*
MAX684EUA	-40°C to +85°C	8 µMAX

* Contact factory for dice specifications.

_Pin Configuration



MAX682/MAX683/MAX684

**Maxim Integrated Products 1**

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