

ABRIDGED DATA SHEET

Click [here](#) for production status of specific part numbers.

MAX20049 Evaluation Kit

Evaluates: MAX20049

General Description

The MAX20049 evaluation kit (EV kit) is a fully assembled and tested application circuit for the MAX20049 mini dual step-down converters with dual LDOs. The EV kit is set up to provide four output voltages from one single input-voltage source. Both step-down converters (OUT1, OUT2) and LDO3 can accept a high input-voltage source (17V max). The IC also features a high-PSRR and low-noise LDO3. Each step-down converter can deliver up to 500mA load current, whereas LDO3 delivers 100mA and LDO4 400mA.

Features

- MAX20049ATEA/VY+ Installed (Other IC Options Available):
 - $V_{OUT1} = 3.8V$
 - $V_{OUT2} = 1.8V$
 - $V_{OUT3} = 3.3V$
 - $V_{OUT4} = 1.2V$
- Inductors Installed Balance Size and Efficiency (see Bill of Materials)
- PGOOD PCB Pad Provided for Voltage Monitoring
- Configurable SUP1 and SUP2 Using Resistors R4 and R5
- Selectable LDOIN3 Input Using Jumper JU1
- Proven PCB Layout
- Fully Assembled and Tested

Ordering Information appears at end of data sheet.

Quick Start

Required Equipment

- MAX20049 EV kit
- 2.7V to 18V, 3A power supply
- Four voltmeters
- Electronic load capable of sinking 1A

Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation:

- 1) Verify that jumper JU1 is in the default configuration, as shown in [Table 1](#).
- 2) Set the power-supply voltage to 14V and then turn off.
- 3) Connect the positive and negative terminals of the power supply to the SUP and PGND3 test pads, respectively.
- 4) Connect the positive terminal of the first voltmeter to the OUT1 test pad and the negative terminal to the GND1 test pad.
- 5) Connect the positive terminal of the second voltmeter to the OUT2 test pad and the negative terminal to the GND2 test pad.
- 6) Connect the positive terminal of the third voltmeter to the OUT3 test pad and the negative terminal to the GND3 test pad.
- 7) Connect the positive terminal of the fourth voltmeter to the OUT4 test pad and the negative terminal to GND4 test pad.
- 8) Turn on the power supply.
- 9) Verify that OUT1 is approximately 3.8V.
- 10) Verify that OUT2 is approximately 1.8V.
- 11) Verify that OUT3 is approximately 3.3V.
- 12) Verify that OUT4 is approximately 1.2V.
- 13) Set the electronic load to 500mA, turn off, and then connect to OUT1.
- 14) Turn on the electronic load and verify that OUT1 is still approximately 3.8V. Turn off the electronic load and disconnect.

ABRIDGED DATA SHEET

MAX20049 Evaluation Kit

Evaluates: MAX20049

for the input power source of LDO3. The EV kit is setup by default to bring the main power rail “SUP” to both OUT1 and OUT2 step-down converters by resistors R5 and R4 respectively. To make other input connections remove R4 and/or R5 and apply power to SUP1 and SUP2 directly.

Startup Sequencing

Refer to the MAX20049 IC data sheet for details.

Output Monitoring (PGOOD)

The EV kit provides a power-good output test point (PGOOD) to monitor the status of the two buck outputs (OUT1 and OUT2) and LDOs. PGOOD becomes high impedance when all output voltages are in regulation. PGOOD goes low when the any regulator output voltage drops to 92% (typ) or rises to 108% (typ) of its nominal regulated voltage.

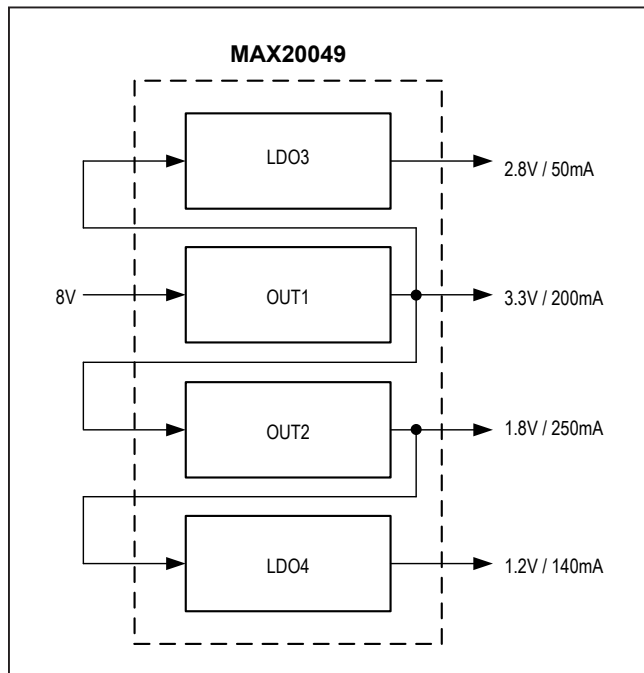


Figure 1. Single-Chip, Single-Power Supply Solution

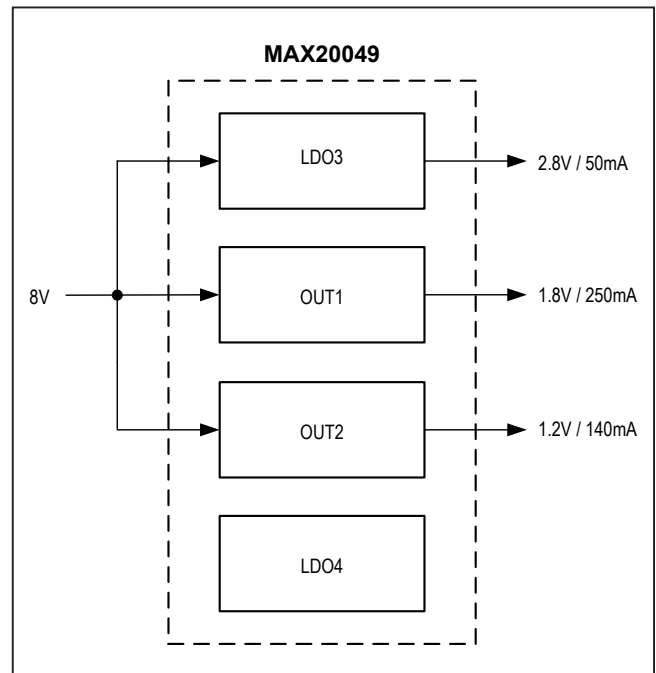


Figure 2. 3-Channel Solution Configurable on the EV Kit

Ordering Information

PART	TYPE
MAX20049EVKIT#	EV Kit

#Denotes RoHS compliant.

