



MIC5331 Evaluation Board

Micro-Power High Performance
Dual 300mA ULDO™

General Description

The MIC5331 is a tiny dual output, low quiescent current LDO. The MIC5331 provides two high performance 300mA LDOs in a tiny 8 pin 2mm x 2mm Thin MLF® package.

The MIC5331 dual Ultra Low Dropout (ULDO™) linear regulator is easy to use. A small output capacitance of only 1µF for each of the outputs is required.

An input capacitor may be required when the power supply is more than 4-inches away from the device. The evaluation board includes an input capacitor of 1µF to compensate for long inductive test leads.

Requirements

The MIC5331 evaluation board requires an input power source that is able to deliver at least 600mA at a voltage within the range of 2.3V to 5.5V. The output load can be either active or passive.

Precautions

The evaluation board does not have reverse polarity protection. Applying a negative voltage to the V_{IN} terminal may damage the device.

The MIC5331 evaluation board is tailored for a Li-Ion range input supply voltage. It should not exceed 5.5V on the input.

Getting Started

1. **Connect an external supply to V_{IN} .** Apply the desired input voltage to the V_{IN} (J1) and ground terminal (J2) of the evaluation board, paying careful attention to polarity and supply voltage

($2.3V \leq V_{IN} \leq 5.5V$). An ammeter may be placed between the input supply and the V_{IN} terminal to the evaluation board to accurately monitor the input current. The ammeter and/or power lead resistance can reduce the voltage supplied to the input so monitor the supply voltage at the V_{IN} terminal..

2. **Enable/Disable the MIC5331.** The evaluation board is set up for "Default Enable" on both outputs with a 10k pull up resistor on each of the enable pins (EN1 and EN2) to V_{IN} . To disable an output, simply jumper the EN terminal (J5 for LDO1, J4 for LDO2) to the GND terminal (J2). The enable pins must be either pulled high or low for proper operation. Removing the pull up resistors and leaving the pins floating will cause the regulators to operate in an indeterminate state.
3. **Connect the loads to the V_{OUT} terminals (J6 for LDO1, J8 for LDO2) and ground terminal (J7).** The load can be either a passive (resistor) or active (electronic load). Be sure to monitor the output voltage at the V_{OUT} (J6 and J8) terminals.

Ordering Information

Part Number	Description
MIC5331-XXYMT EV	Evaluation board with the 300mA Dual ULDO™ device

ULDO is a trademark of Micrel, Inc.

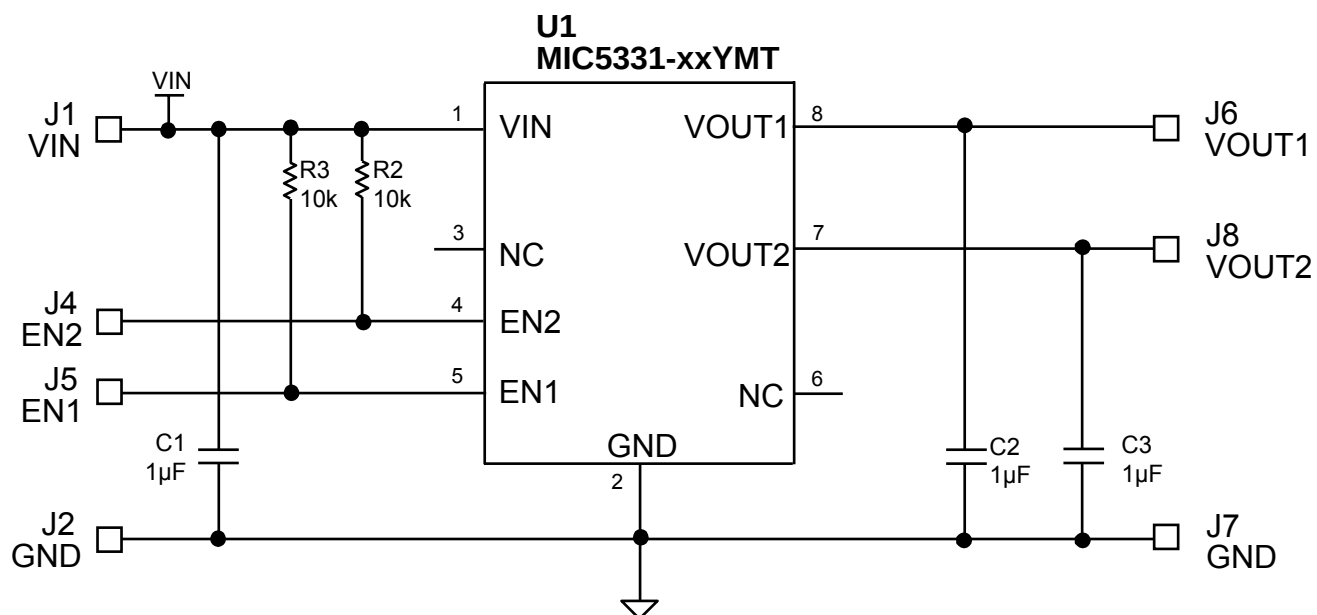
MLF and MicroLeadFrame are registered trademarks of Amkor Technology, Inc.

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Evaluation Board Schematic



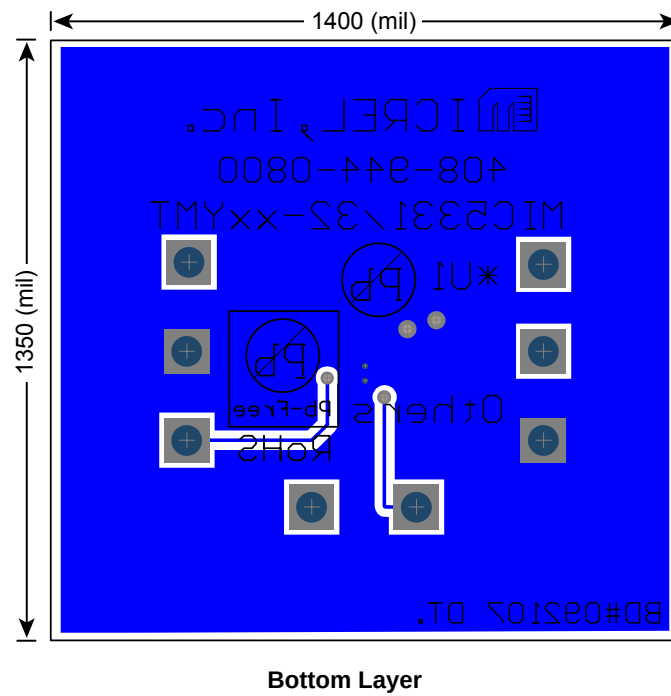
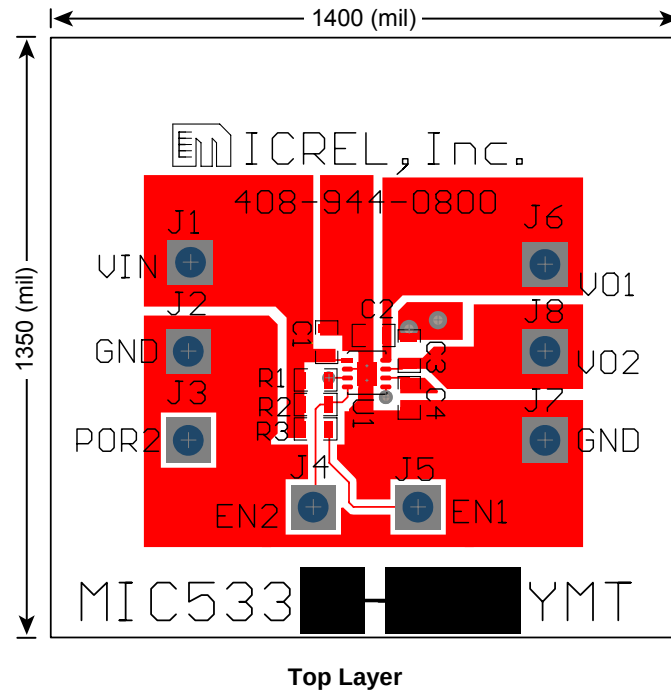
Bill of Materials

Item	Part Number	Manufacturer	Description	Qty
C1, C2, C3	C1608X5R0J105K	TDK ⁽¹⁾	Capacitor, 1µF Ceramic, 6.3V, X5R, Size 0603	3
R2, R3	CRCW06031002FKEYE3	Vishay ⁽²⁾	Resistor, 10kΩ, 1%, 1/16W, Size 0603	2
U1	MIC5331-XXYMT	Micrel ⁽³⁾	UCAP LDO, Dual 300mA, Size 2mm x 2mm Thin MLF®	1

Notes:

1. TDK: www.tdk.com
2. Vishay: www.vishay.com
3. Micrel, Inc.: www.micrel.com

PCB Layout Recommendations



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