MIC5333 Evaluation Board

Micro-Power High Performance Dual 300mA ULDO™ with Dual POR

General Description

The MIC5333 is a tiny dual output, low quiescent current LDO. The MIC5333 provides two high performance 300mA LDOs, with a POR generator for each LDO output into a 2.5mm x 2.5mm Thin MLF® package.

The MIC5333 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" away from the device. The evaluation board includes an input capacitor of 1µF to compensate for long inductive test leads.

Requirements

The MIC5333 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 MIC5333 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 ($2.3V \le V_{IN} \le 5.5V$). 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 MIC5333**. The evaluation board has both of the enable pins (EN1 and EN2) connected to pin terminals and must be tied to either V_{IN} or GND with jumper wires for proper operation. To enable an output, jumper the EN terminal (J6 for LDO1, J5 for LDO2) to V_{IN} (J1). To disable an output, jumper the EN terminal to the GND terminal (J2 or J9). Leaving the enable pins floating will cause the regulators to operate in an indeterminate state.

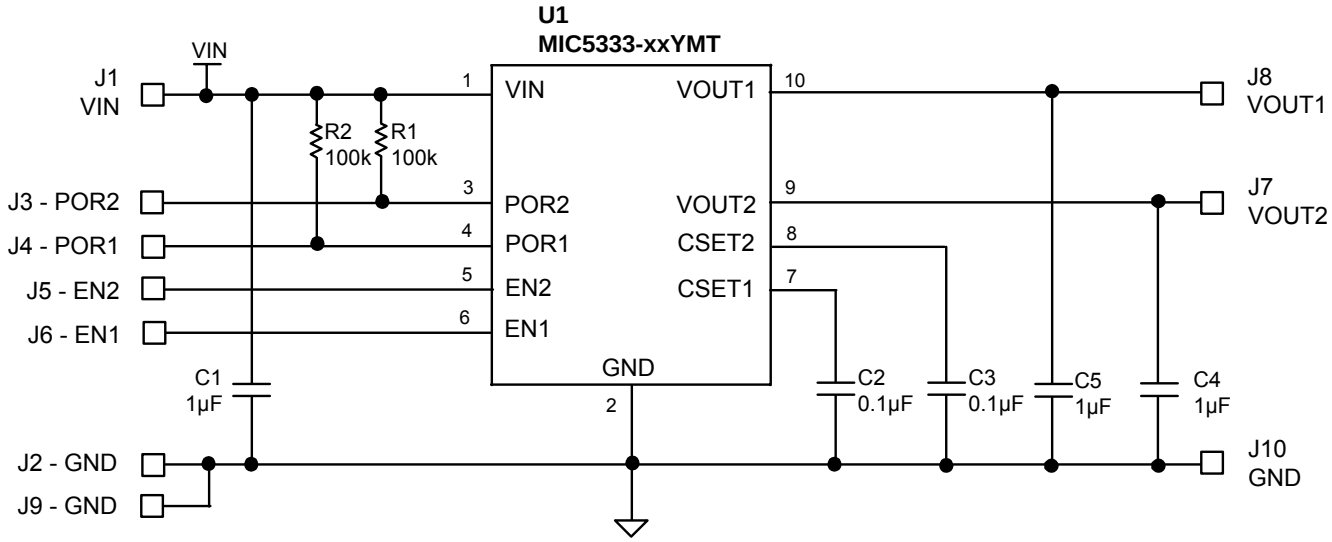
3. **Connect the loads to the V_{OUT} terminals (J8 for LDO1, J7 for LDO2) and ground terminal (J10).** The load can be either passive (resistor) or active (electronic load). Be sure to monitor the output voltage at the V_{OUT} (J7 and J8) terminals.

4. **Power on Reset.** Connect an oscilloscope to the POR terminal (J4 for POR1, or J3 for POR2) and ground terminal (J2, J9 or J10). The evaluation board has a 0.1µF capacitors connected from the CSET pins to GND. This corresponds to a delay of 100ms on the POR1 and POR2 outputs. The POR delay time can be modified by changing the value of C2 for POR1 and C3 for POR2 with a rate of 1s/µF, or removing the capacitors for zero delay.

Ordering Information

Part Number	Description
MIC5333-XXYMT EV	Evaluation board with the 300mA Dual ULDO™ with Dual POR device

Evaluation Board Schematic



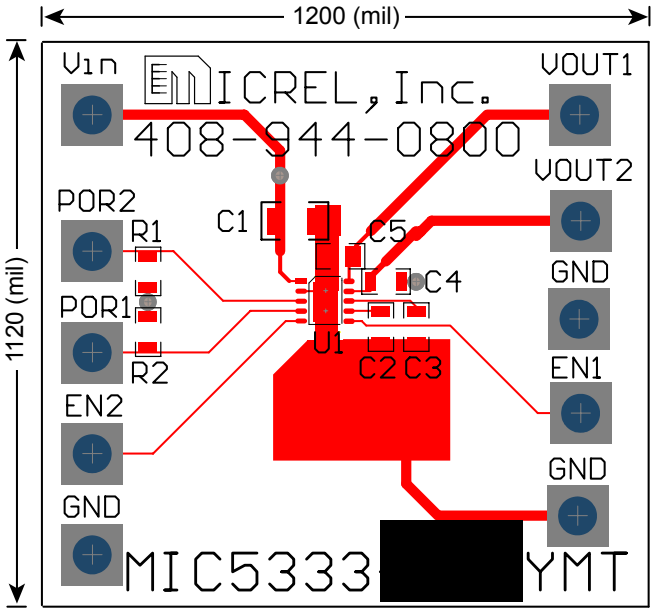
Bill of Materials

Item	Part Number	Manufacturer	Description	Qty
C1, C4, C5	C1608X5R0J105K	TDK[1]	Capacitor, 1µF Ceramic, 6.3V, X5R, Size 0603	3
C2, C3	VJ0603Y104KXXAT	Vishay[2]	Capacitor, 0.1µF Ceramic, 10V, X7R, Size 0603	2
R1, R2	CRCW06031003FRT1	Vishay[2]	Resistor, 100kΩ, 1%, 1/16W, Size 0603	2
U1	**MIC5333-XXYMT**	**Micrel**[3]	**UCAP LDO, Dual 300mA with dual POR, 2.5mm x 2.5mm Thin MLF®**	**1**

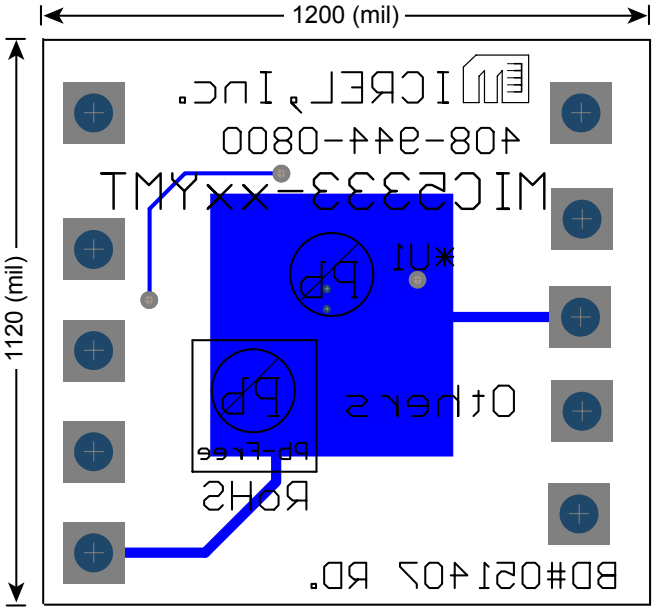
Notes:

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

PCB Layout Recommendations



Top Layer



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