MIC5322 Evaluation Board

High Performance Dual 150mA µCap ULDO™

General Description

The MIC5322 is a tiny dual output, ultra low dropout linear regulator. The MIC5322 regulator provides a single active low enable pin for both outputs as well as a bypass pin to reduce the output voltage noise. The MIC5322 provides two high performance 150mA LDOs in a tiny 6 pin 1.6mm x 1.6mm Thin MLF® package.

The MIC5322 dual Ultra Low Dropout (ULDO™) linear regulator is easy to use. A small capacitance of only 1µF is required for the input voltage and each of the outputs to maintain stability. A bypass capacitor of 0.01µF is included on the evaluation board to reduce the output voltage noise and improve the Power Supply Rejection Ratio (PSRR).

The evaluation board includes an input capacitor of 10µF to compensate for long inductive test leads.

Requirements

The MIC5322 evaluation board requires an input power source that is able to deliver at least 300mA 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 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.

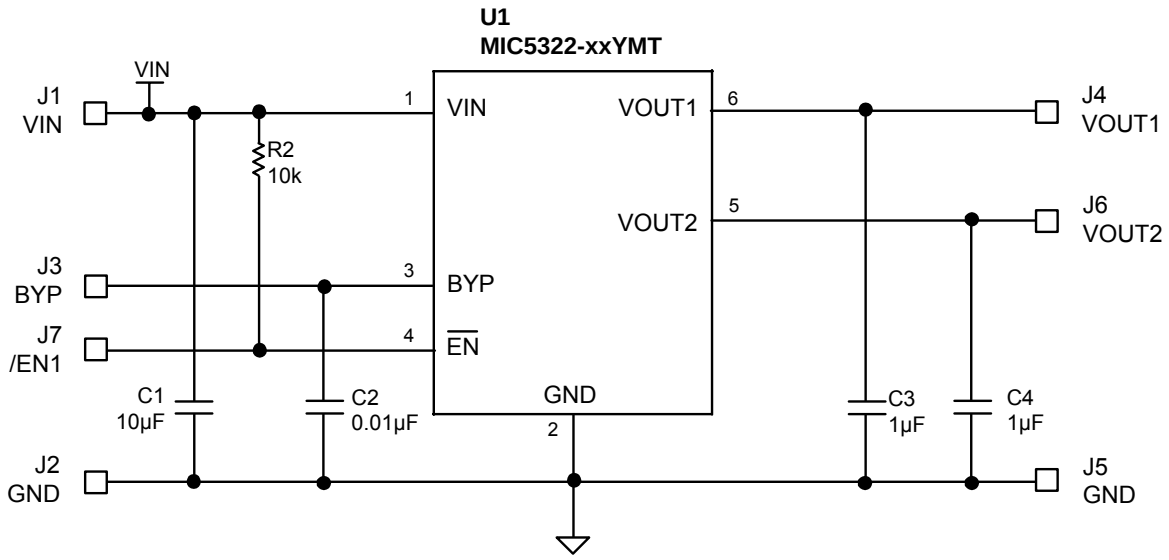
2. **Enable/Disable the MIC5322**. The evaluation board is set up for "Default Disable" on both outputs with a 10k pull up resistor on the enable pin (/EN) to V_{IN}. To enable both outputs, simply jumper the /EN terminal (J7) to the GND terminal (J2 or J5). The enable pin must be either pulled high or low for proper operation. Removing the pull up resistors and leaving the pin floating will cause the regulators to operate in an indeterminate state.

3. **Connect the loads to the V_{OUT} terminals (J4 for LDO1, J6 for LDO2) and ground terminal (J5).** The load can be either a passive (resistor) or active (electronic load). Be sure to monitor the output voltage at the V_{OUT} (J4 and J6) terminals.

Ordering Information

Part Number	Description
MIC5322-XXYMT EV	Evaluation board with the 150mA Dual ULDO™ device with bypass and active low enable

Evaluation Board Schematic



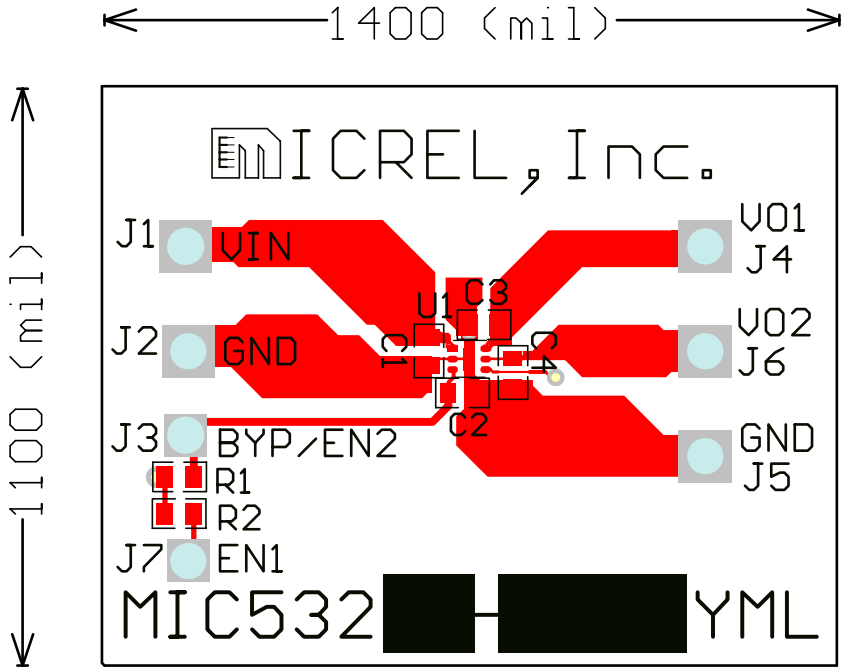
Bill of Materials

Item	Part Number	Manufacturer	Description	Qty
C1	C1608X5R0J106M	TDK[1]	Capacitor, 10µF Ceramic, 6.3V, X5R, Size 0603	1
C2	VJ0603Y103KXQ	Vishay[2]	Capacitor, 0.01µF Ceramic, 10V, X7R, Size 0603	1
C3, C4	C1608X5R0J105M	TDK[1]	Capacitor, 1µF Ceramic, 6.3V, X5R, Size 0603	2
R1	OPEN		Do not populate	
R2	CRCW06031002FKEYE3	Vishay[2]	Resistor, 10kΩ, 1%, 1/16W, Size 0603	1
U1	**MIC5322-XXYMT**	**Micrel[3]**	**UCAP LDO, Dual 150mA, Size 1.6mm x 1.6mm Thin MLF®**	**1**

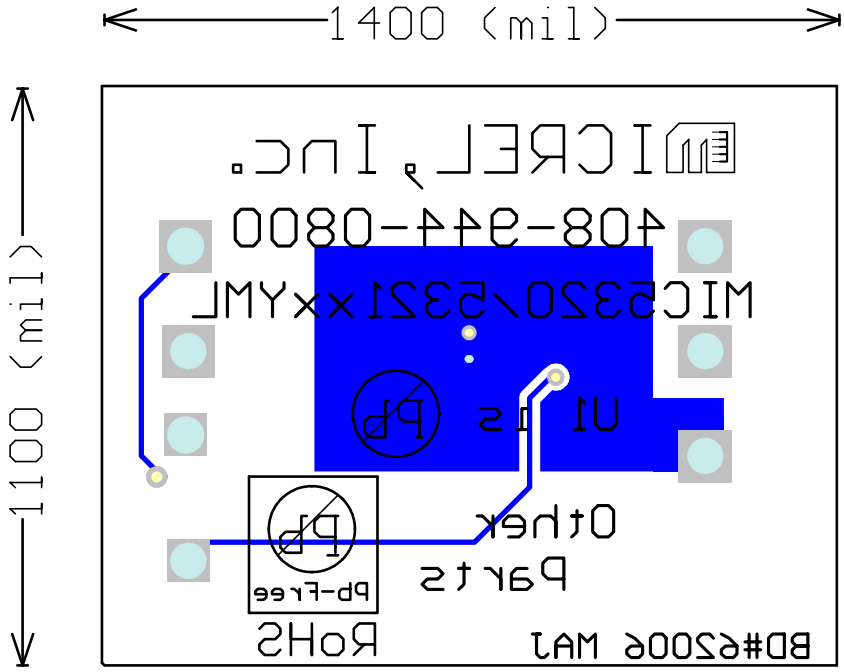
Notes:

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

PCB Layout Recommendations



Top Layer



Bottom Layer

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