MIC5370/1 Evaluation Board

High Performance Dual 150mA LDO 1.6mm x1.6mm Thin MLF®

General Description

The MIC5370/1 is an advanced dual LDO ideal for powering general purpose portable devices. The MIC5370/1 provides two independently controlled, high performance 150mA LDOs in a tiny 1.6mm x 1.6mm Thin MLF® package. When the MIC5371 is disabled an internal resistive load is automatically applied to the output to discharge the output capacitor.

Ideal for battery powered applications, the MIC5370/1 offers low dropout voltage 155mV@150mA and low ground current typically 32µA per LDO.

An input capacitor may be required when the power supply is more than 4-inches from the device. The evaluation board includes an input capacitor of 10µF to compensate for long inductive test leads.

Requirements

The MIC5370/1 evaluation board requires an input power supply that is able to deliver at least 350mA at a voltage within the range of 2.5V 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.

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 ($2.5V \le V_{IN} \le 5.5V$). An ammeter may be placed between the input supply and the V_{IN} terminal of the evaluation board. Ensure that the supply voltage is monitored at the V_{IN} terminal. The ammeter and power lead resistance can reduce the voltage supplied to the input.

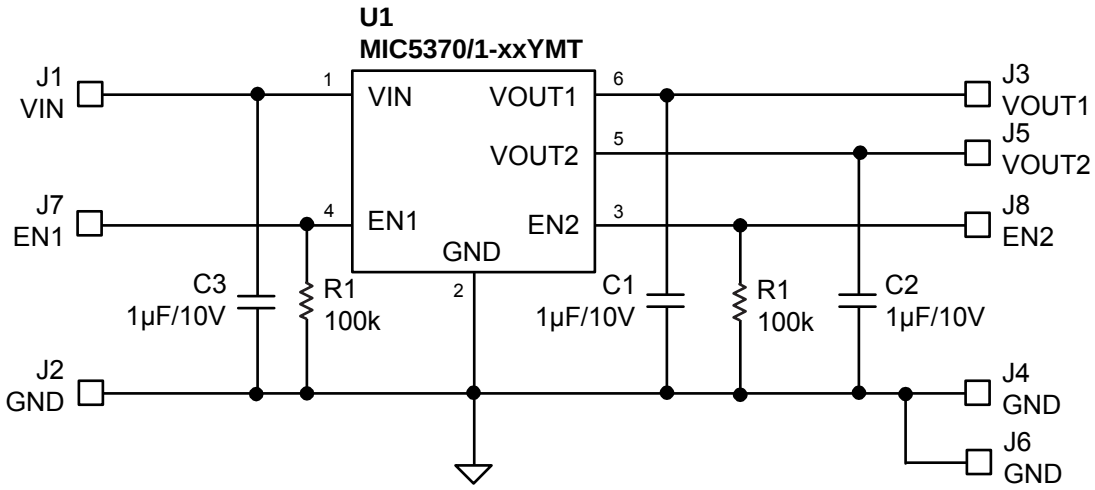
2. **Enable/Disable the MIC5370/1**. The evaluation board is configured for "Default Disable" with 100KΩ pull down resistors on the enable pins to GND. To enable the MIC5370/1 jumper the enable terminal (J7 for LDO1 and J8 for LDO2) to V_{IN}. To disable the output, simply remove the jumper from the EN terminal. The enable pin must be either pulled high or low for proper operation. Removing the pull down resistors and leaving the pins floating will cause the regulators to operate in an indeterminate state.

3. **Connect the load to the V_{OUT} terminals (J3 for LDO1 and J5 for LDO2) and ground terminal (J4).** The load can be either a passive (resistor) or active (electronic load). Be sure to monitor the output voltage at the V_{OUT} (J3, J5) terminals.

Ordering Information

Part Number	Description
MIC5370-SSYMT EV	High Performance Dual 150mA LDO V_{OUT1} =3.3V, V_{OUT2} = 3.3V Evaluation Board
MIC5370-PPYMT EV	High Performance Dual 150mA LDO V_{OUT1} =3.0V, V_{OUT2} = 3.0V Evaluation Board
MIC5370-MGYMT EV	High Performance Dual 150mA LDO V_{OUT1} =2.8V, V_{OUT2} = 1.8V Evaluation Board
MIC5370-M4YMT EV	High Performance Dual 150mA LDO V_{OUT1} =2.8V, V_{OUT2} = 1.2V Evaluation Board
MIC5370-G4YMT EV	High Performance Dual 150mA LDO V_{OUT1} =1.8V, V_{OUT2} = 1.2V Evaluation Board
MIC5370-4CYMT EV	High Performance Dual 150mA LDO V_{OUT1} =1.2V, V_{OUT2} = 1.0V Evaluation Board
MIC5371-SSYMT EV	High Performance Dual 150mA LDO with auto discharge V_{OUT1} =3.3V, V_{OUT2} = 3.3V Evaluation Board
MIC5371-PPYMT EV	High Performance Dual 150mA LDO with auto discharge V_{OUT1} =3.0V, V_{OUT2} = 3.0V Evaluation Board
MIC5371-MGYMT EV	High Performance Dual 150mA LDO with auto discharge V_{OUT1} =2.8V, V_{OUT2} = 1.8V Evaluation Board
MIC5371-M4YMT EV	High Performance Dual 150mA LDO with auto discharge V_{OUT1} =2.8V, V_{OUT2} = 1.2V Evaluation Board
MIC5371-G4YMT EV	High Performance Dual 150mA LDO with auto discharge V_{OUT1} =1.8V, V_{OUT2} = 1.2V Evaluation Board
MIC5371-4CYMT EV	High Performance Dual 150mA LDO with auto discharge V_{OUT1} =1.2V, V_{OUT2} = 1.0V Evaluation Board

Evaluation Board Schematic



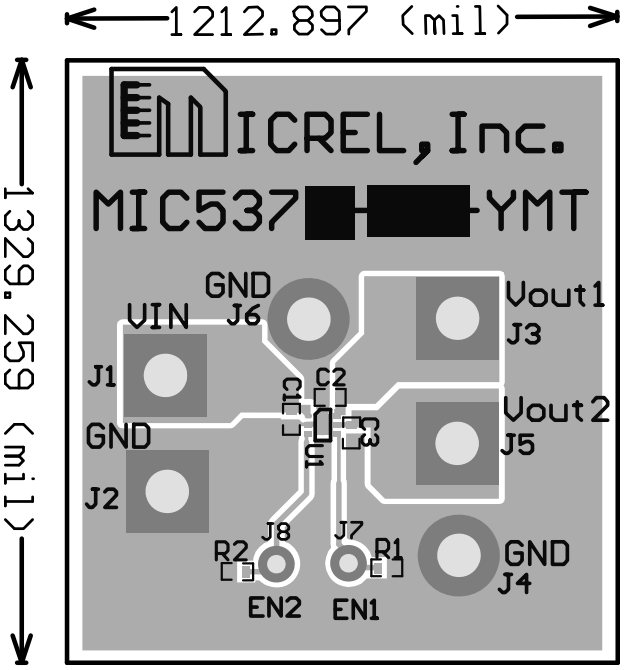
Bill of Materials

Item	Part Number	Manufacturer	Description	Qty.
C1	C1608X5R0J106K	TDK[2]	Capacitor, 10µF Ceramic, 6.3V, X5R, Size 0603	1
C2, C3	GRM188R60J225KE19D	Murata[1]	Capacitor, 1µF Ceramic, 10V, X5R, Size 0402	2
R1, R2	CRCW04021003KFKEA	Vishay[3]	Resistor, 100KΩ,1/16W, Size 0402	2
U1	**MIC5370-XXYMT**	**Micrel**[4]	**Dual, 150mA LDO, 1.6mm x 1.6mm Thin MLF®**	**1**
	MIC5371-XXYMT	**Micrel**[4]	**Dual, 150mA LDO with auto discharge, 1.6mm x 1.6mm Thin MLF®**	

Notes:

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

PCB Layout Recommendations



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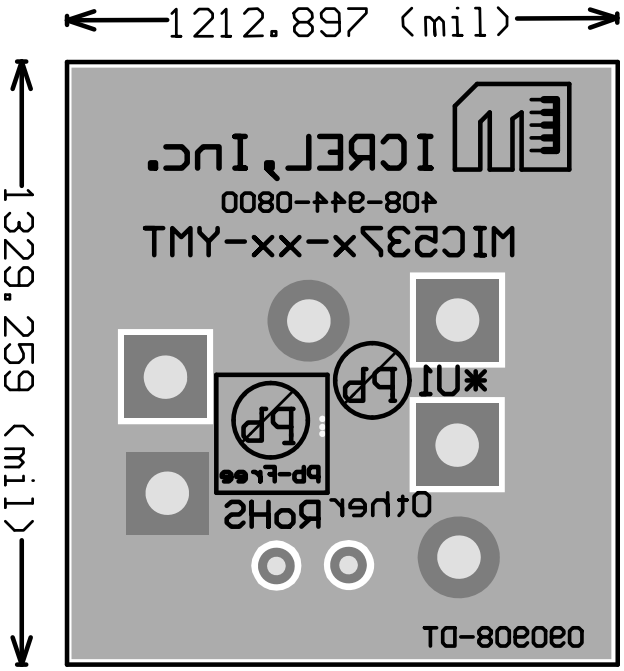

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