MIC5326/7 Evaluation Board

Low I_Q Ultra Low Dropout LDO

General Description

The MIC5326/7 is a low quiescent current, low dropout regulator designed for optimal performance in a small space. The MIC5326 is capable of sourcing 150mA while MIC5327 provides up to 300mA of output current. MIC5326/7 consumes only 24µA of operating current. This high performance LDO offers fast transient response and good PSRR.

The MIC5326/7 is an ideal solution for battery operated applications due to extremely low dropout voltage of 85mV at 150mA and 180mV at 300mA respectively. The MIC5326/7 can also be put into a zero-off-mode current state, drawing virtually no current when disabled.

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 10µF to compensate for long inductive test leads.

Requirements

The MIC5326/7 evaluation board requires an input power supply that is able to deliver at least 400mA 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.

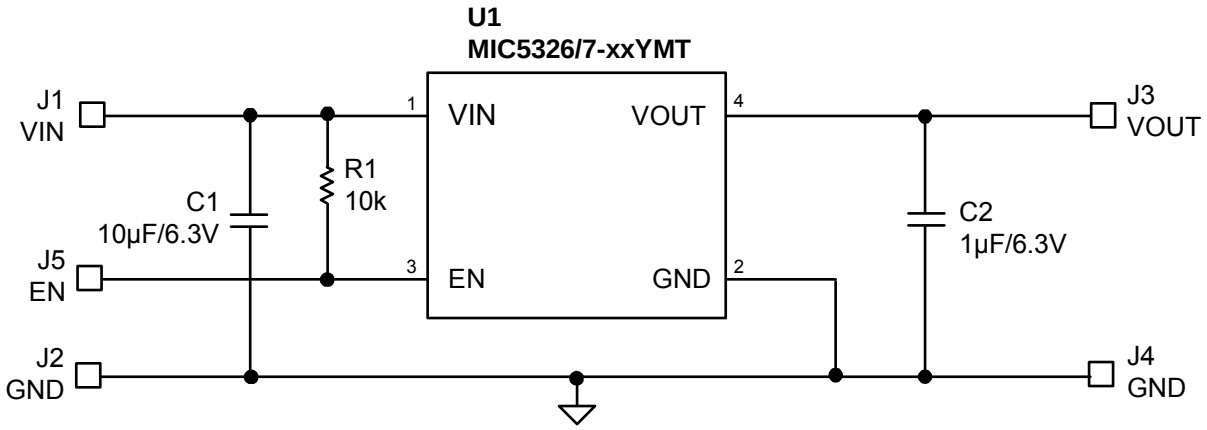
Getting Started

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 of the evaluation board. Ensure that the supply voltage is monitored at the V_{IN} terminal. The ammeter and/or power lead resistance can reduce the voltage supplied to the input.
2. **Enable/Disable the MIC5326/7**. The evaluation board is set up for "Default Enable" with a 10k pull up resistor on enable pin (EN) to V_{IN}. To disable the output, simply jumper the EN terminal (J5) to the GND terminal (J2).The enable pin must be either pulled high or low. Removing the pull up resistor and leaving the pin floating will cause the regulator to operate in an indeterminate state.
3. **Connect the load to the V_{OUT} terminal (J3) 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) terminal.

Ordering Information

Part Number	Description
MIC5326-2.8YMT EV	150mA Low I_Q, Low dropout LDO V_{OUT} = 2.8V Evaluation Board
MIC5327-1.8YMT EV	300mA Low I_Q, Low dropout LDO V_{OUT} = 1.8V Evaluation Board
MIC5327-2.8YMT EV	300mA Low I_Q, Low dropout LDO V_{OUT} = 2.8V Evaluation Board

Evaluation Board Schematic



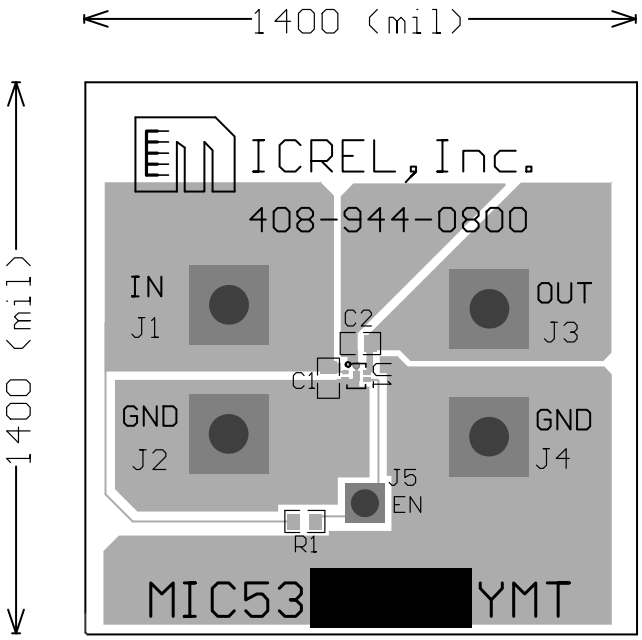
Bill of Materials

Item	Part Number	Manufacturer	Description	Qty
C1	C1608X5R0J106Z	TDK[1]	Capacitor, 10µF Ceramic, 6.3V, X5R, Size 0603	1
C2	C1608X5R0J105K	TDK[1]	Capacitor, 1µF Ceramic, 6.3V, X5R, Size 0603	1
R1	CRCW06031002FKEYE3	Vishay[2]	Resistor, 10kΩ, 1%, 1/16W, Size 0603	1
U1	**MIC5326-xxYMT**	**Micrel**[3]	**150mA Low I_Q Ultra Low Dropout LDO 1.2mmx1.6mm Thin MLF®**	**1**
	MIC5327-xxYMT		**300mA Low I_Q Ultra Low Dropout LDO 1.2mmx1.6mm Thin MLF®**	

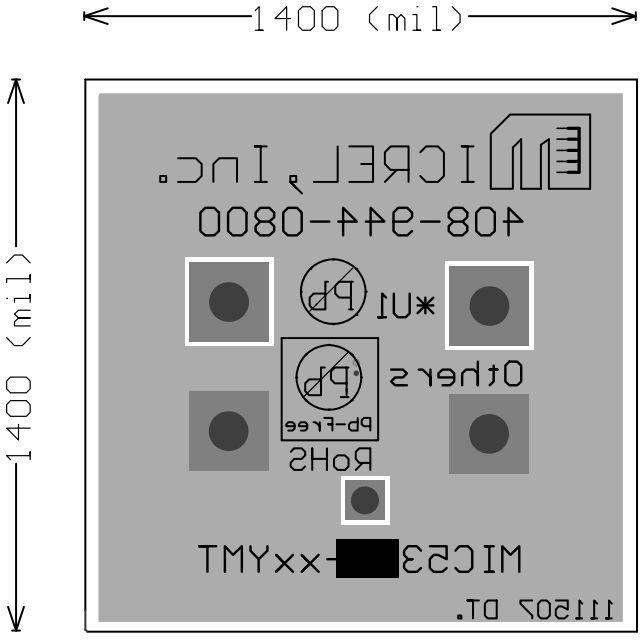
Notes:

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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