MIC38300 Evaluation Board

3A HELDO™
High Efficiency Low Dropout Regulator

General Description

The MIC38300 is a 3A peak, 2.2A continuous current step down converter and the first device in a new generation of HELDO™ (High Efficiency Low Dropout) regulators providing the benefits of LDOs in respect to ease of use, fast transient performance, high PSRR and low noise while offering the efficiency of a switching regulator.

Requirements

The MIC38300 Evaluation board requires an input power supply able to provide greater than 3A at 3V.

Precautions

The evaluation board does not have reverse polarity protection. Applying a negative voltage to the V_{IN} (J1) terminal may damage the device.

The MIC38300 evaluation board is tailored for a low voltage input supply range. It should not exceed 5.5V on the input.

Getting Started

Connect an external supply to V_{IN}. Apply desired input voltage to the V_{IN} (J1) and ground (J2 and J6) terminals of the evaluation board, paying careful attention to polarity and supply voltage ($3.0V \le V_{IN} \le 5.5V$). An ammeter may be placed between the input supply and the V_{IN} terminal to 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.

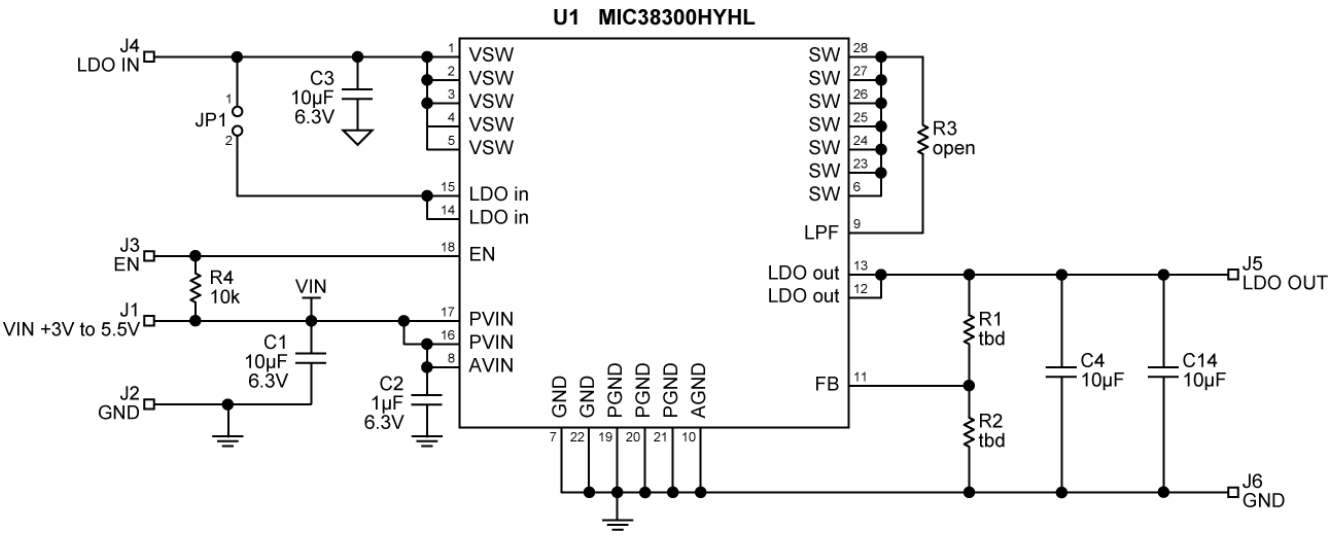
Revisions

There are two revisions of the MIC38300 Evaluation Board. The new, second revision, of the MIC38300 evaluation board has the label “BD#070507” on the lower left hand corner of the back side. The first revision has the label “040507 MAJ” located at the same corner.

Ordering Information

Part Number	Description
MIC38300HYHL EV	Evaluation board with MIC38300HYHL adjustable device.

Evaluation Board Schematic Revision 2 (BD#070507)



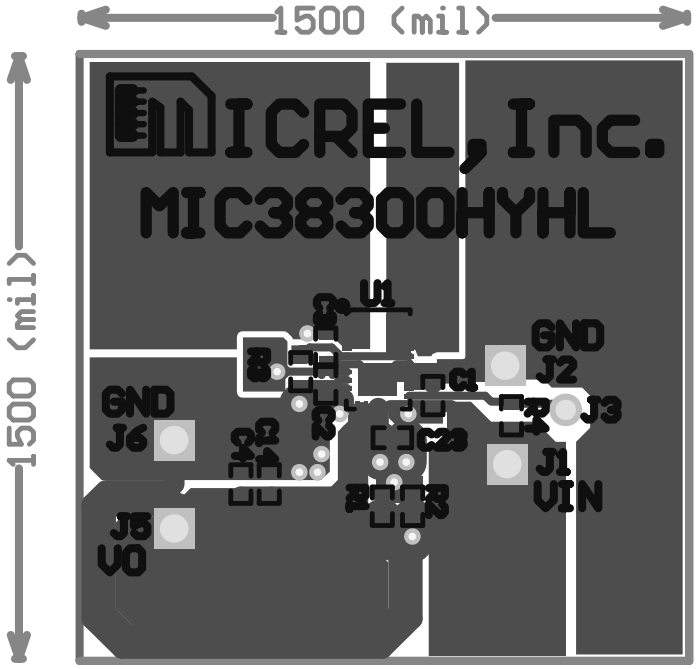
Bill of Materials Revision 2 (BD#070507)

Item	Part Number	Manufacturer	Description	Qty.
C1, C3, C4, C14, C23	06036D106KMAT2A	AVX[1]	10uF, 6.3V X5R Ceramic Capacitor	1
	JMK107BJ106MA-T	Taiyo Yuden[5]		
	C1608X5R0J106K	TDK[3]		
	GRM188R60J106M	Murata[2]		
C2	C1608X5R0J105K	TDK[3]	10uF, 6.3V X5R Ceramic Capacitor	1
	06036D105KAT2A	AVX[1]		
	GRM188R60J105KE19D	Murata[2]		
	VJ0603G105KXYAT	Vishay[4]		
R1	CRCW06038061FRT1	Vishay[4]	8k, 1%, 1/10W, 0603	1
R2, R4	CRCW06031002KEYE3	Vishay[4]	10k, 1%, 1/10W, 0603	2
R3	CRCW06032492FRT1	Vishay[4]	24.9k, 1%, 1/10W, 0603	1
U1	**MIC38300-HYHL**	**Micrel, Inc.[6]**	**28-Pin 4mm x 6mm MLF®**	**1**

Notes:

1. AVX: www.avx.com
2. Murata: www.murata.com
3. TDK: www.tdk.com
4. Vishay: www.vishay.com
5. Taiyo Yuden: www.t-yuden.com
6. **Micrel, Inc.: www.micrel.com**

PCB Layout Revision 2 (BD#070507)



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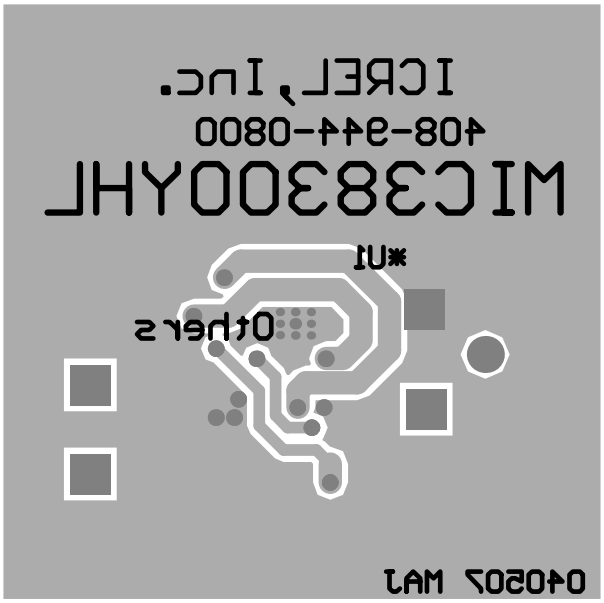
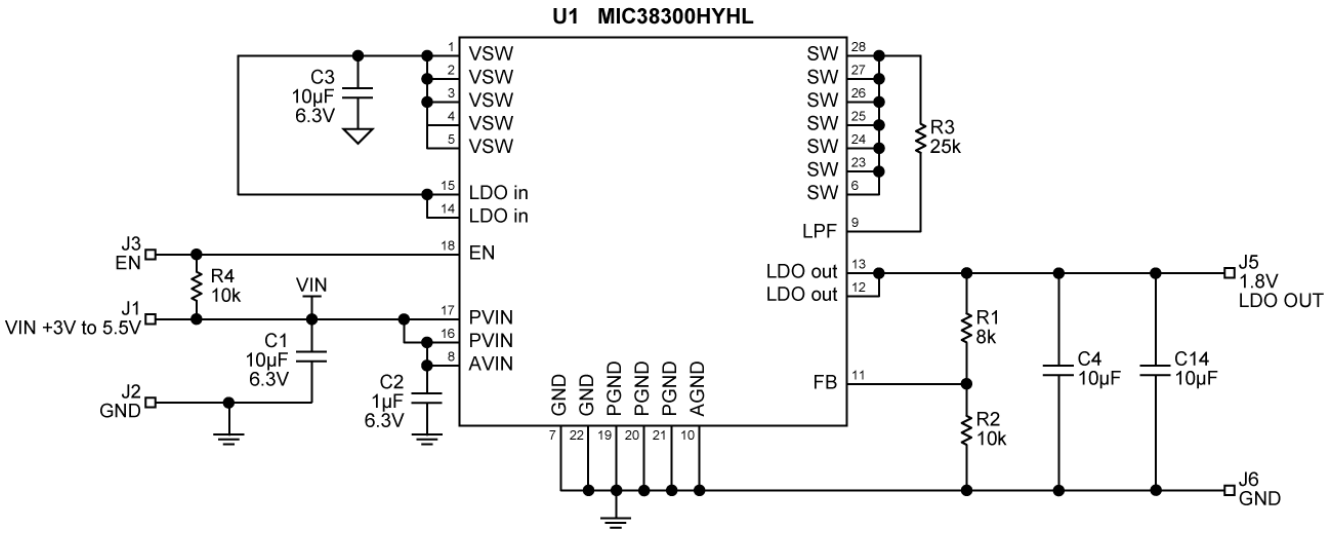


Bottom

Evaluation Board Revision 1 (040507 MAJ) Schematic



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	C1608X5R0J106K	TDK[3]		
	GRM188R60J106M	Murata[2]		
C2	C1608X5R0J105K	TDK[3]	10uF, 6.3V X5R Ceramic Capacitor	1
	06036D105KAT2A	AVX[1]		
	GRM188R60J105KE19D	Murata[2]		
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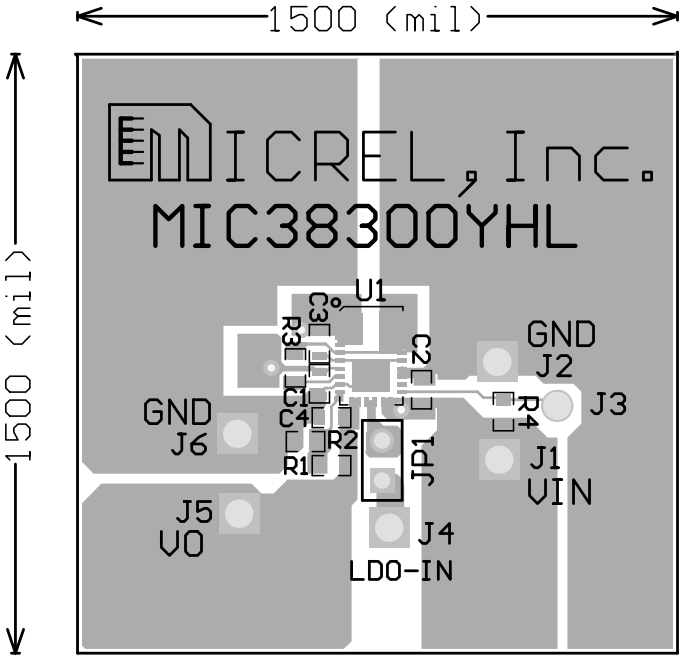

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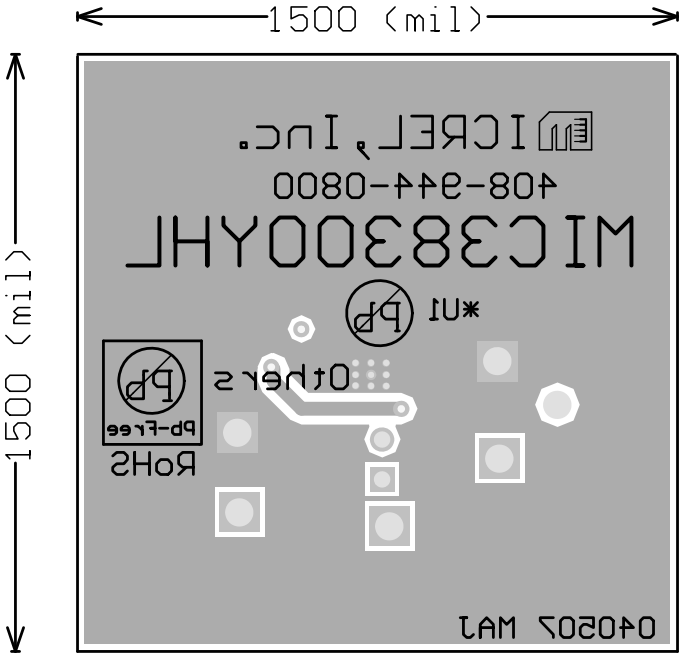

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