



# 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 ( $3.0V \leq V_{IN} \leq 5.5V$ ). 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.

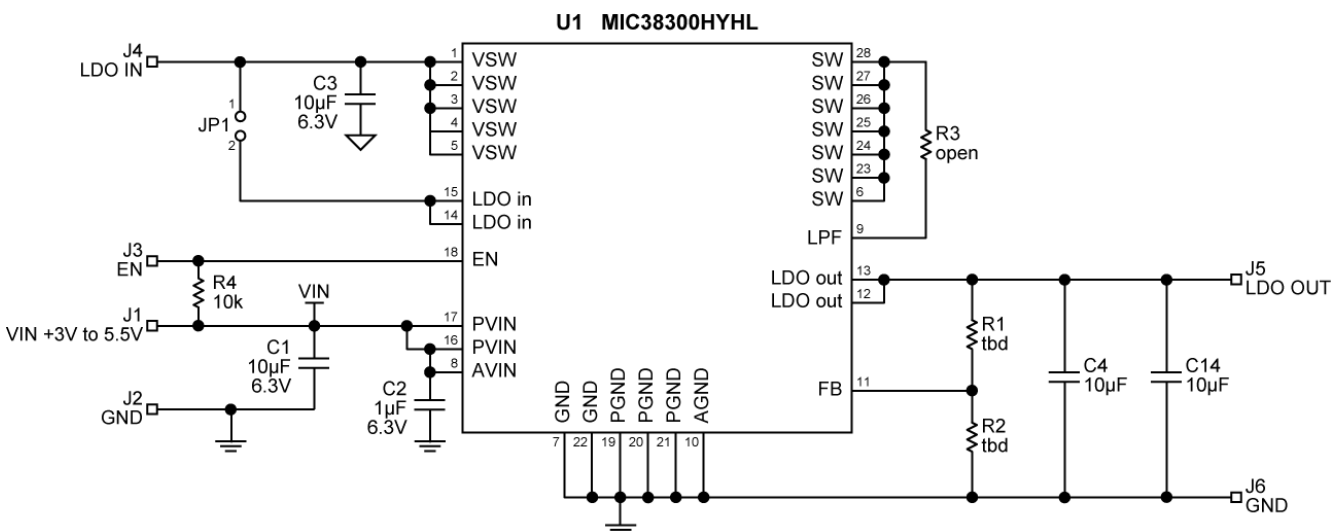
### Revisions

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)



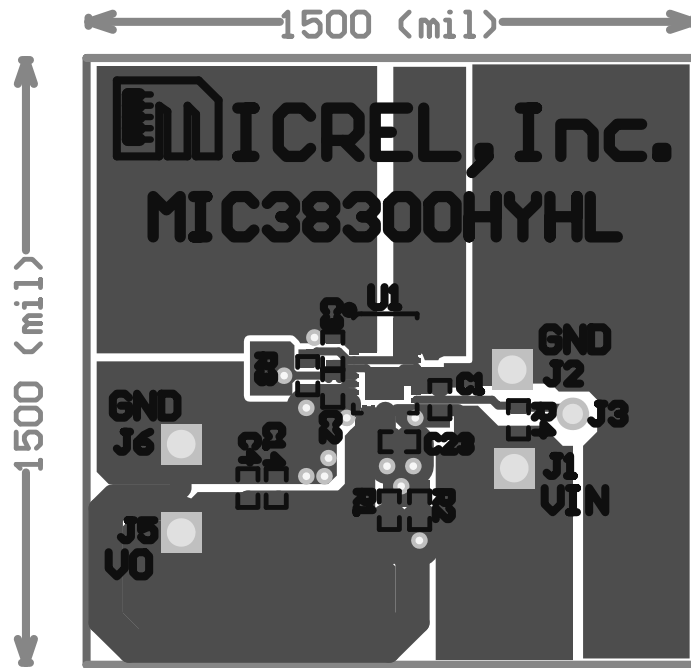
**Bill of Materials Revision 2 (BD#070507)**

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

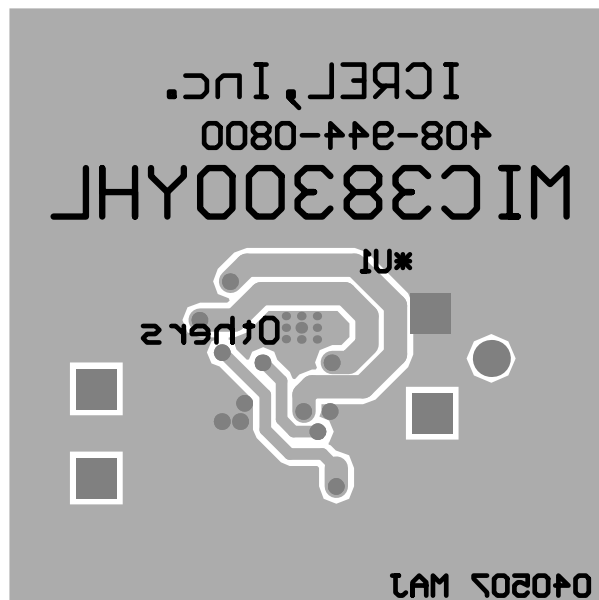
**Notes:**

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

PCB Layout Revision 2 (BD#070507)

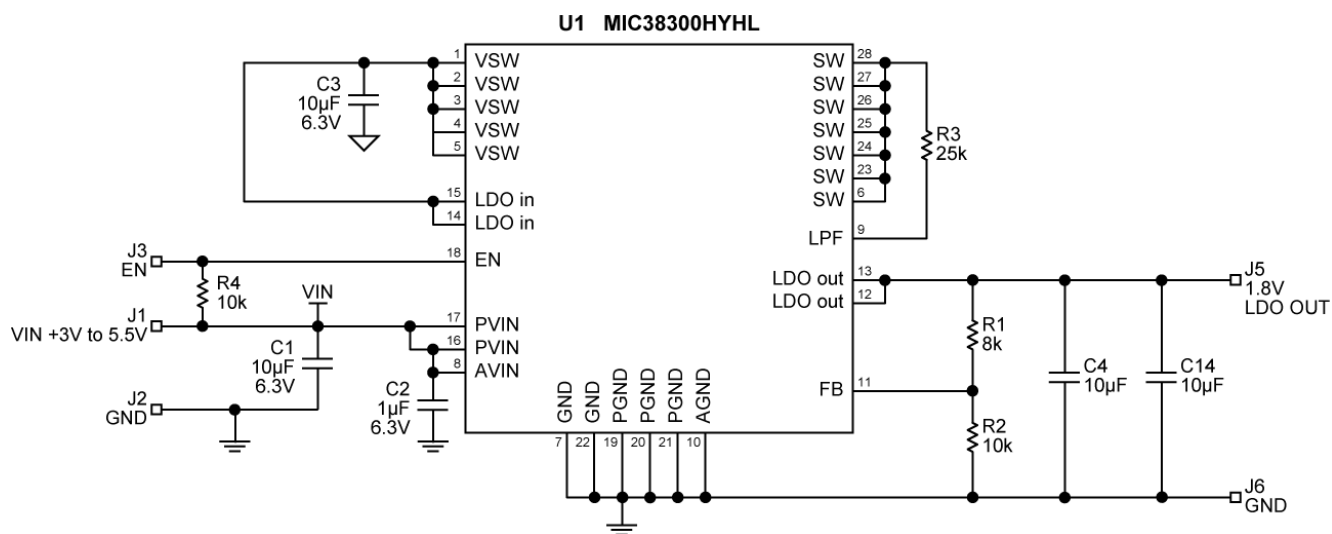


Top



Bottom

### Evaluation Board Revision 1 (040507 MAJ) Schematic



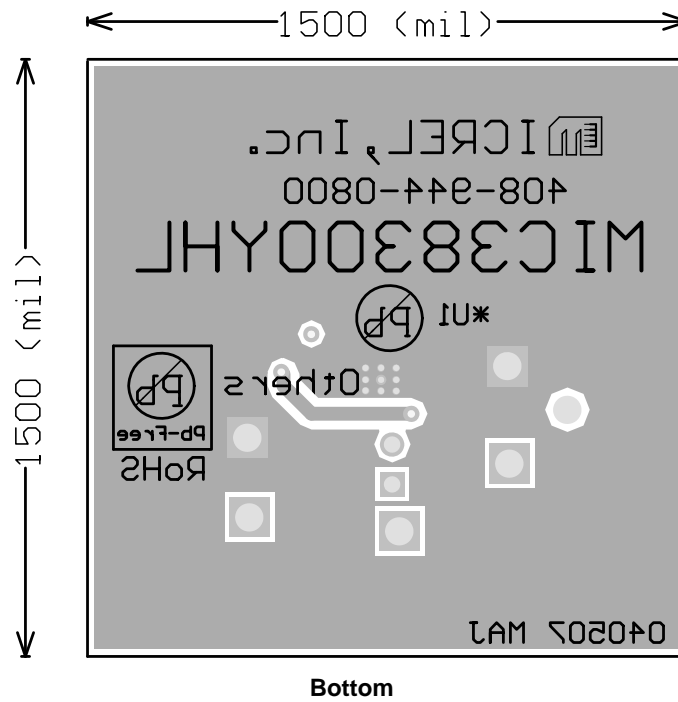
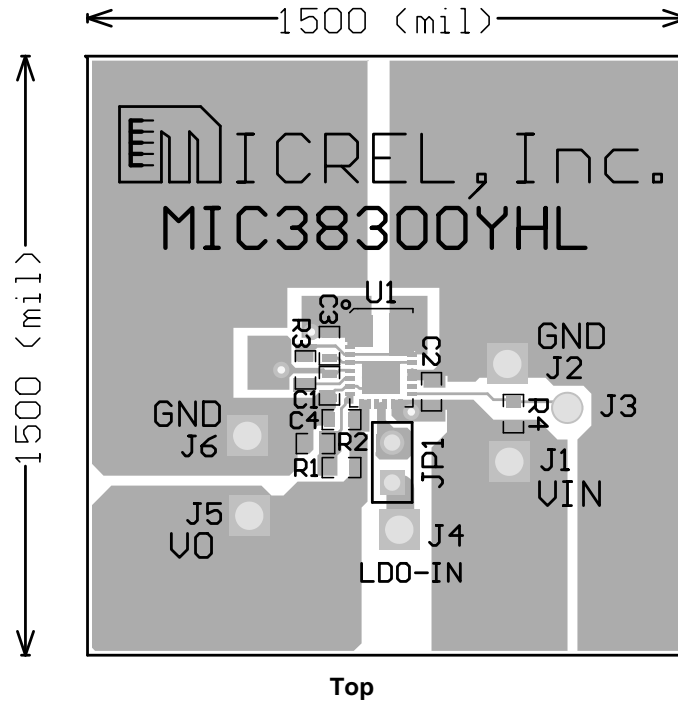
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C1, C3, C4	06036D106KMAT2A	AVX <sup>(1)</sup>	10uF, 6.3V X5R Ceramic Capacitor	1
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	C1608X5R0J106K	TDK <sup>(3)</sup>		
	GRM188R60J106M	Murata <sup>(2)</sup>		
C2	C1608X5R0J105K	TDK <sup>(3)</sup>	10uF, 6.3V X5R Ceramic Capacitor	1
	06036D105KAT2A	AVX <sup>(1)</sup>		
	GRM188R60J105KE19D	Murata <sup>(2)</sup>		
	VJ0603G105KXYAT	Vishay <sup>(4)</sup>		
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U1	MIC38300-HYHL	Micrel, Inc. <sup>(6)</sup>	28-Pin 4mm x 6mm MLF <sup>®</sup>	1

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2. Murata: [www.murata.com](http://www.murata.com)
3. TDK: [www.tdk.com](http://www.tdk.com)
4. Vishay: [www.vishay.com](http://www.vishay.com)
5. Taiyo Yuden: [www.t-yuden.com](http://www.t-yuden.com)
6. Micrel, Inc.: [www.micrel.com](http://www.micrel.com)

PCB Layout Revision 1 (040507 MAJ)



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