

# QUICK START GUIDE FOR DEMONSTRATION CIRCUIT DC439A-B

## DUAL PHASE HIGH CURRENT STEP-DOWN POWER SUPPLY WITH HOT SWAPPABLE LOAD SHARE MODULE

### LTC1929/LTC4350

## DESCRIPTION

Demonstration circuit DC439A-B is a step-down converter featuring the LTC1929/LTC4350. LTC1929 is a dual phase synchronous buck regulator and LTC4350 is a hot swappable load share controller. The Input voltage is from 5V to 14V and output is 3.3V at 40A max.

The LTC1929 operates at switching frequencies from 150kHz to 300kHz. For high-density applications requiring higher switching frequencies, the LTC3729 is a pin compatible part which operates from 250kHz to 550kHz.

**Design files for this circuit board are available. Call the LTC factory.**

**Table 1. Performance Summary**

PARAMETER	CONDITION	VALUE
Minimum Input Voltage		5V
Maximum Input Voltage		14V
$V_{OUT\_BUS}$	$V_{IN} = 5V \text{ to } 14V, I_{OUT1} = 0A \text{ to } 40A$	$3.3V \pm 1\%$
Nominal Switching Frequency	Jumper Selectable	150kHz to 300kHz

## QUICK START PROCEDURE

Demonstration circuit DC439A-B is easy to set up to evaluate the performance of the LTC1929/LTC4350 for high current applications. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

**NOTE:** Figure 2 shows the minimum connection of two paralleling LTC1929/LTC4350 supply modules. For detailed operations, contact the LTC factory.

**NOTE:** A cooling fan is required when the output current is higher than 35A.

1. Place the jumpers as shown in the Figure 1.
2. Connect the desired load at Vout\_bus. The load can be up to 40A for 3.3V Vout. Pre-set the load to 0A.
3. Connect the input power supply to Vin and GND. The rated input voltage range is from 5V to 14V. The recommended Vin to start is 12V. The output voltage should be within  $3.3V \pm 0.1V$ .
4. Increase load to 40A (a cooling fan is required above 35A). At 12V input voltage, the input current should be less than 13A.

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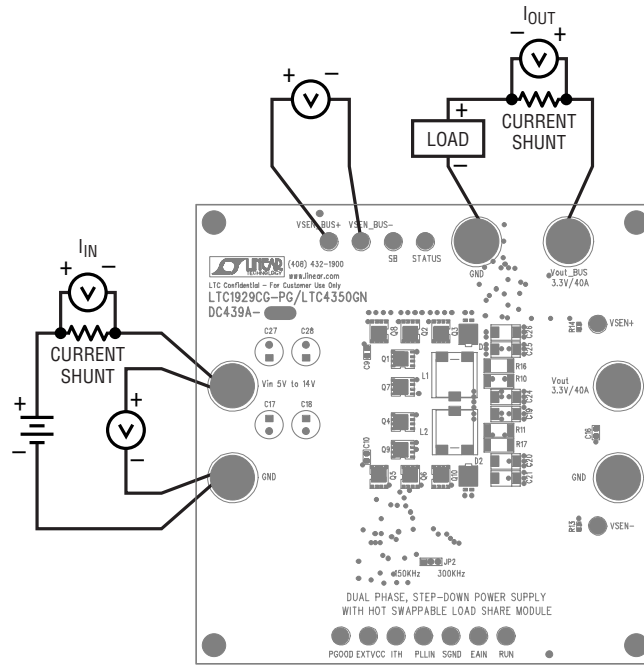


Figure 1. Proper Measurement Equipment Setup for Efficiency Test

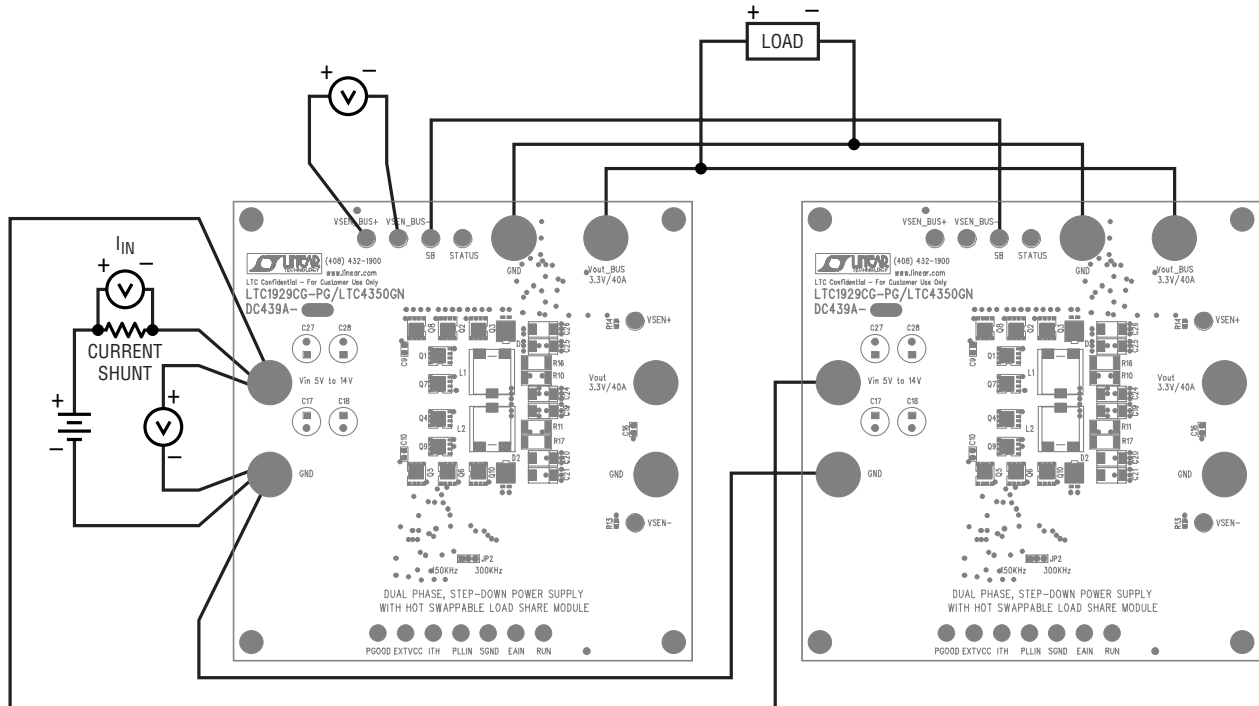
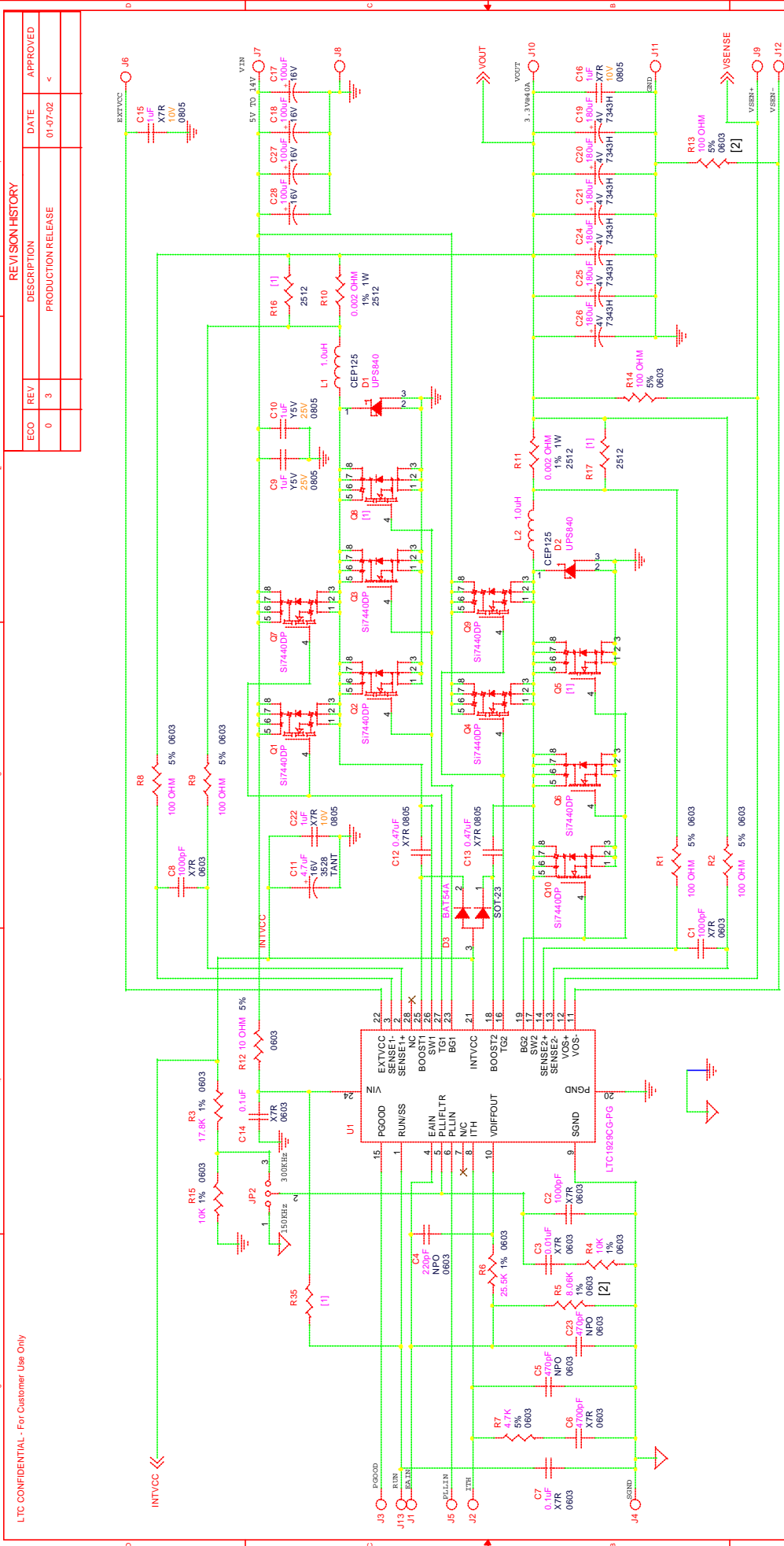


Figure 2. Minimum Setup for Paralleling Two Modules with Load Sharing



**CONTRACTING.**

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCE ON DIMENSIONS ...  
25% INTERPRET DIM AND TOL  
PER ASME Y14.5M-1994  
THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

**LINEAR TECHNOLOGY**

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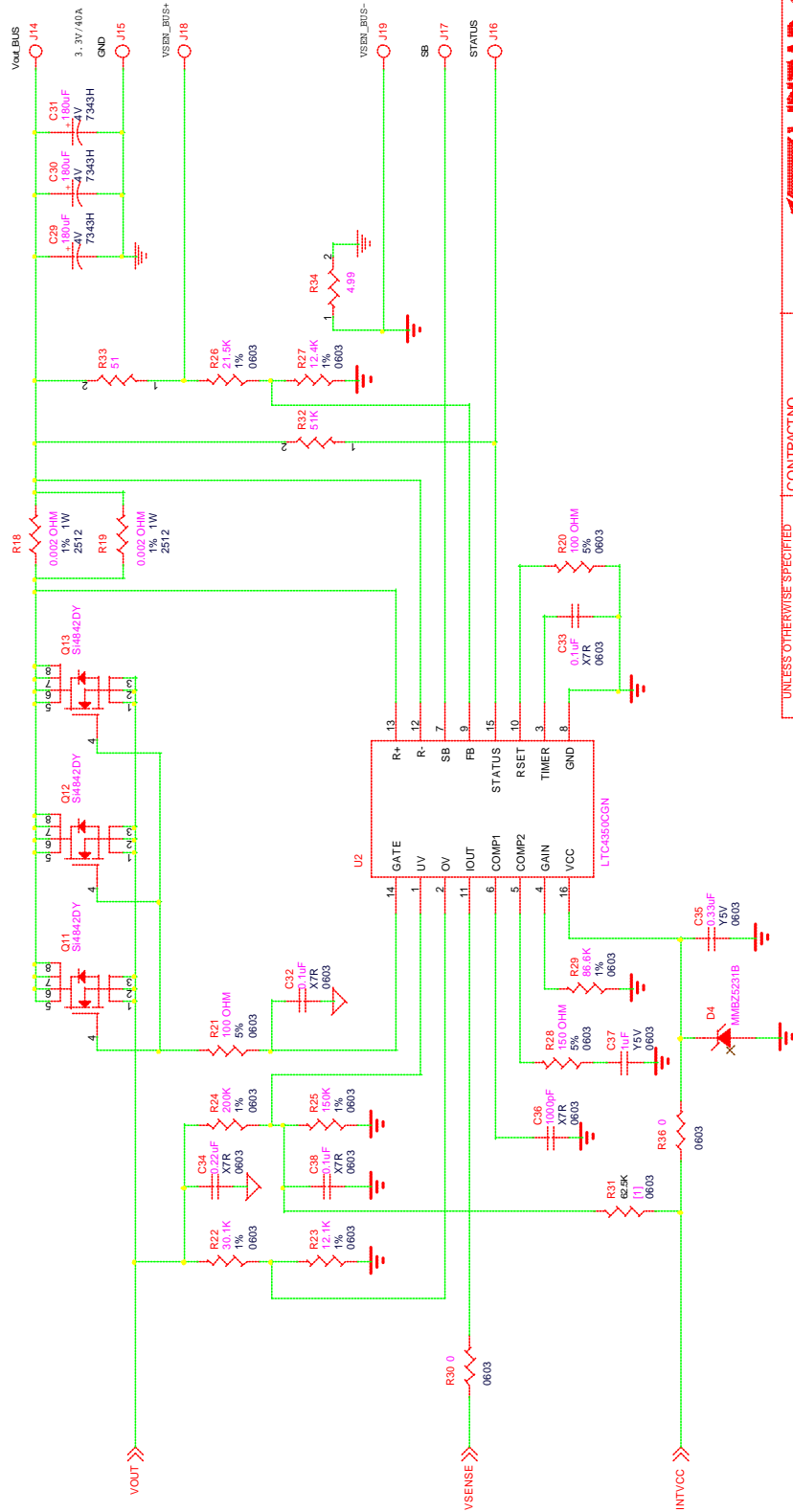
APPROVALS	DATE
DRAWN MEI	12-20-01
CHECKED	
APPROVED	
ENGINEER	
DESIGNER	
Monday, February 25, 2002	

<b>TITLE</b>	
SCHUDUAL PHASE STEP-DOWN POWER SUPPLY WITH HOT SWAPPABLE LOAD SHARE MODULE	
SIZE	DWG NO
B	DC439A
SCALE/NONE	FILENAME: 439A-3.DSN
SHEET 1	OF 2

OPTION TABLE	
VERSION	R5
DC439A-A (W/O LTC4350CGN)	8.06K
DC439A-B (W/ LTC4350CGN)	8.66K

NOTES: UNLESS OTHERWISE SPECIFIED,  
 [1] OPTIONAL.  
 [2] VERSION.

REVISION HISTORY				
ECO	REV	DESCRIPTION	DATE	APPROVED
>	2	PRODUCTION RELEASE	01-07-02	>



**CONTRACTING.**

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25 PER ASME Y14.5M - 1994  
INTERPRET DIM AND TOL  
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THIRD ANGLE PROJECTION

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APPROVALS	DATE	TITLE	
DRAWN MIE	10-16-01	SCHEDULED PHASE STEP-DOWN POWER SUPPLY WITH	
CHECKED		HOT SWAPPABLE LOAD SHARE MODULE	
APPROVED		SIZE	DWG NO
ENGINEER		B	DC439A
DESIGNER		SCALE	NO
		None	

Monday, February 25, 2002

NOTES:  
THIS PAGE FOR DC439A-B WITH  
LTC4350