

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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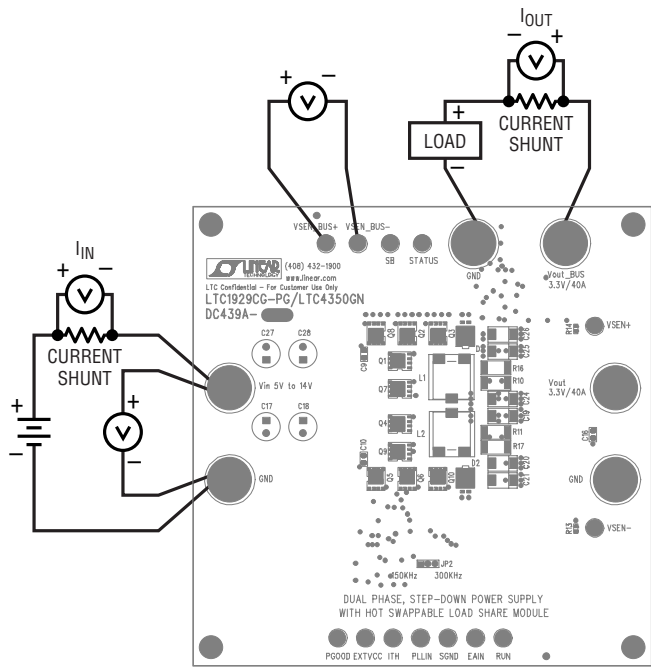


Figure 1. Proper Measurement Equipment Setup for Efficiency Test

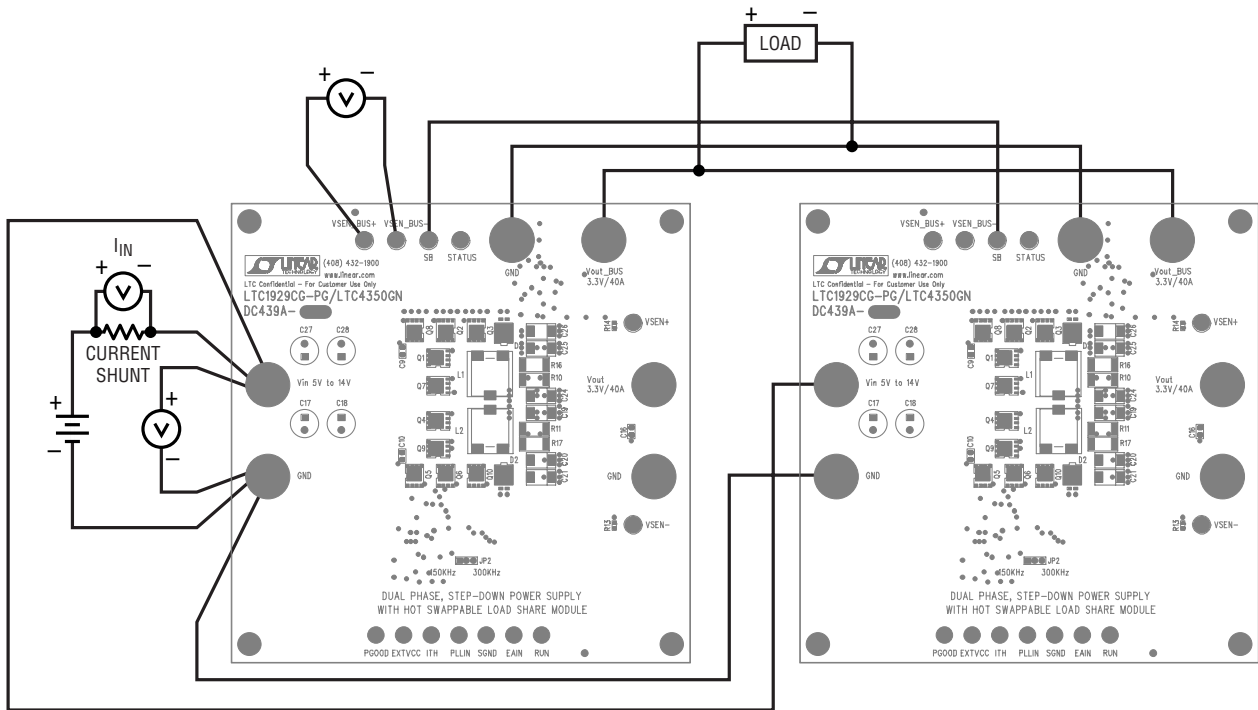
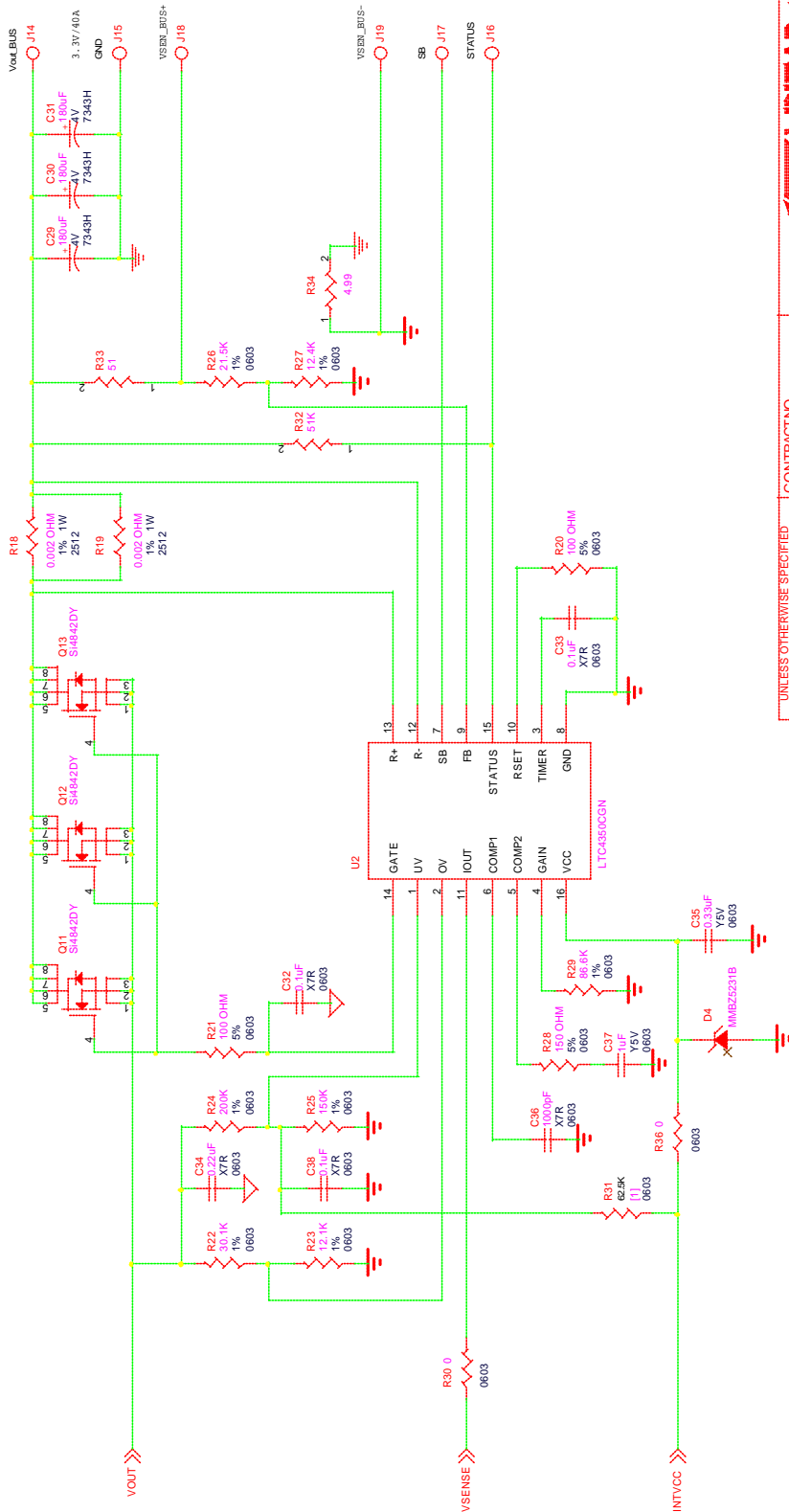


Figure 2. Minimum Setup for Paralleling Two Modules with Load Sharing

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



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

NOTES:
THIS PAGE FOR DC439A-B WITH
LTC4350

CONTRACT NO.	
APPROVALS	DATE
DRAWN MIE	10-16-01
CHECKED	
APPROVED	
ENGINEER	
DESIGNER	

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TITLE
SCHEDULED PHASE STEP-DOWN POWER SUPPLY WITH
HOT SWAPPABLE LOAD SHARE MODULE

SIZE	CAGE CODE	DWG NO	REV
B		DC439A	2

SCALE	NAME	FILE NAME	SHEET	OF
None		439A-3.SCH	2	2

DO NOT SCALE DRAWING

Monday, February 25, 2002