LINEAR TECHNOLOGY

LT3011EMSE
50mA, High Voltage Low Dropout Linear Regulator with PWRGD

DESCRIPTION

Demonstration circuit 1407A is a high voltage low dropout micropower linear regulator featuring LT®3011, which comes in the thermally enhanced 12-lead MSOP and 10-lead 4mmX3mm DFN packages. The DC1407A has an input voltage range from 3 to 80V, and is capable of delivering up to 50mA output current. Operating quiescent current is 46µA, reducing to less than 1µA in shutdown. The LT3011 includes a PWRGD flag to indicate output regulation. The delay between regulated output level and flag indication is programmable with a single capacitor.The DC1407A is installed with ceramic capacitors, because of the LT3011 ability of maintaining stability with ceramic output capacitors. Due to its high input voltage range, the DC1407 voltage regulator is ideally suited for automotive and industrial applications.

The LT3011 datasheet gives a complete description of the part, operation and application information. The datasheet must be read in conjunction with this quick start guide for demo circuit 1407A.

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

Performance Summary ($T_A = 25^0C$)

PARAMETER FOR LINEAR REGULATOR	CONDITION	VALUE
Minimum Input Voltage		3V
Maximum Input Voltage		80V
Output Voltage V_{OUT}	V_{IN}=5V, I_{OUT}=50mA	3.3V +/- 4%
	V_{IN}=6.5V, I_{OUT}=50mA	5V +/- 4%
Maximum Output Current		50mA

QUICK START PROCEDURE

Demonstration circuit 1407A is easy to set up to evaluate the performance of the LT3011. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

1. Before proceeding to test, insert jumper JP1 into the OFF position, and use VOUT Select jumper J1 for the desired output voltage 5V and 3.3V. If the output voltage is different from the above values, use the USER select option and install a resistor R6.

2. Apply input voltage across Vin to Gnd. Insert jumper JP1 into the ON position. Check for the proper output voltage.

3. Once the proper output voltage is established, adjust the load within the operating range and observe the output voltage regulation.
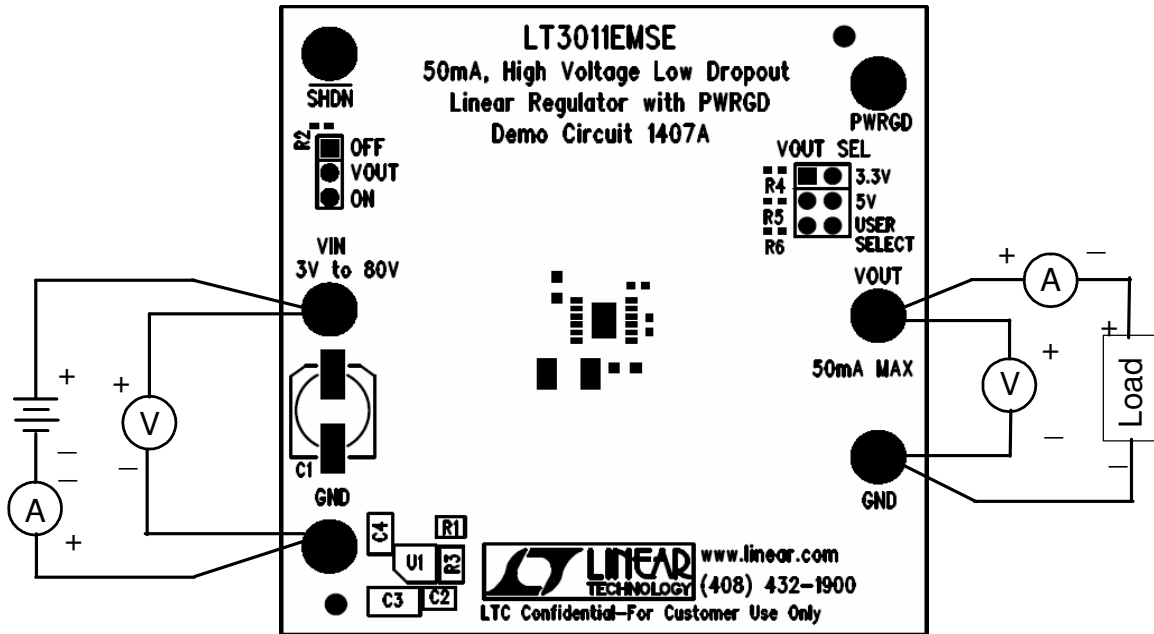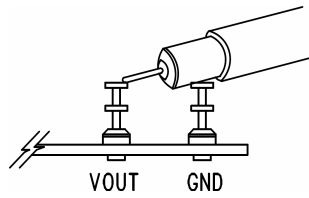
Figure 1. Proper Measurement Equipment Setup

Figure 2. Measuring Input or Output Ripple

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LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.

THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

CONTRACT NO.

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TITLE: LT3011EMSE
50mA, High Voltage Low Dropout Linear Regulator with PWRGD

DWG NO. DC1407A

SIZE A

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REV A

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