

## DESCRIPTION

Demonstration circuit 1172A is a low dropout linear regulator featuring LT®1965, which comes in 5-lead TO-220, 5-lead DD-PAK as well as the thermally enhanced 8-lead MSOP and 8-lead 3mmX3mm DFN packages. The DC1172A has an input voltage range from 2.3 to 20V, and is capable of delivering up to 1.1A output current. Operating quiescent current is 500µA, reducing to less than 1µA in shutdown. The DC1172A has a very low output noise, which makes it

ideal for logic power supplies, post regulator for switching supplies and low noise instruments.

The LT1965 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 1172A.

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

LT, LTC and LT are registered trademarks of Linear Technology Corporation. ThinSOT and PowerPath are trademarks of Linear Technology Corporation.

### Performance Summary ( $T_A = 25^{\circ}\text{C}$ )

PARAMETER FOR BUCK REGULATOR	CONDITION	VALUE
Minimum Input Voltage		2.3V
Maximum Input Voltage		20V
Output Voltage $V_{\text{out}}$	$V_{\text{IN}}=2.5\text{V}, I_{\text{OUT}}=1.1\text{A}$	1.2V +/- 4%
	$V_{\text{IN}}=2.5\text{V}, I_{\text{OUT}}=1.1\text{A}$	1.5V +/- 4%
	$V_{\text{IN}}=2.5\text{V}, I_{\text{OUT}}=1.1\text{A}$	1.8V +/- 4%
	$V_{\text{IN}}=3.3\text{V}, I_{\text{OUT}}=1.1\text{A}$	2.5V +/- 4%
	$V_{\text{IN}}=3.3\text{V}, I_{\text{OUT}}=1.1\text{A}$	3.3V +/- 4%
Maximum Output Current		1.1A

## QUICK START PROCEDURE

Demonstration circuit 1172A is easy to set up to evaluate the performance of the LT1965. 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 1.2V, 1.5V, 1.8V, 2.5V, 3.3V. If the output voltage is different from the above values, use the USER select option and install a resistor R5.
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.

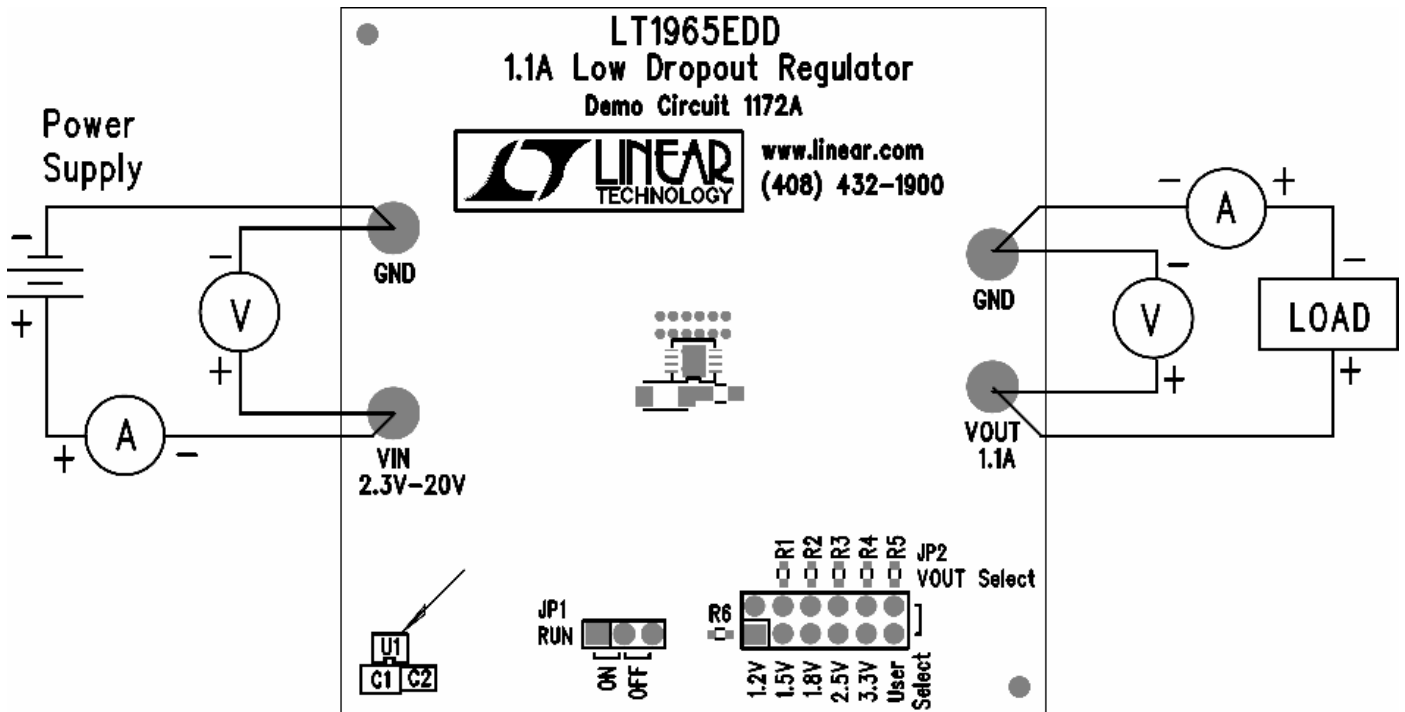


Figure 1. Proper Measurement Equipment Setup

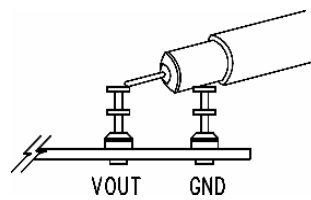
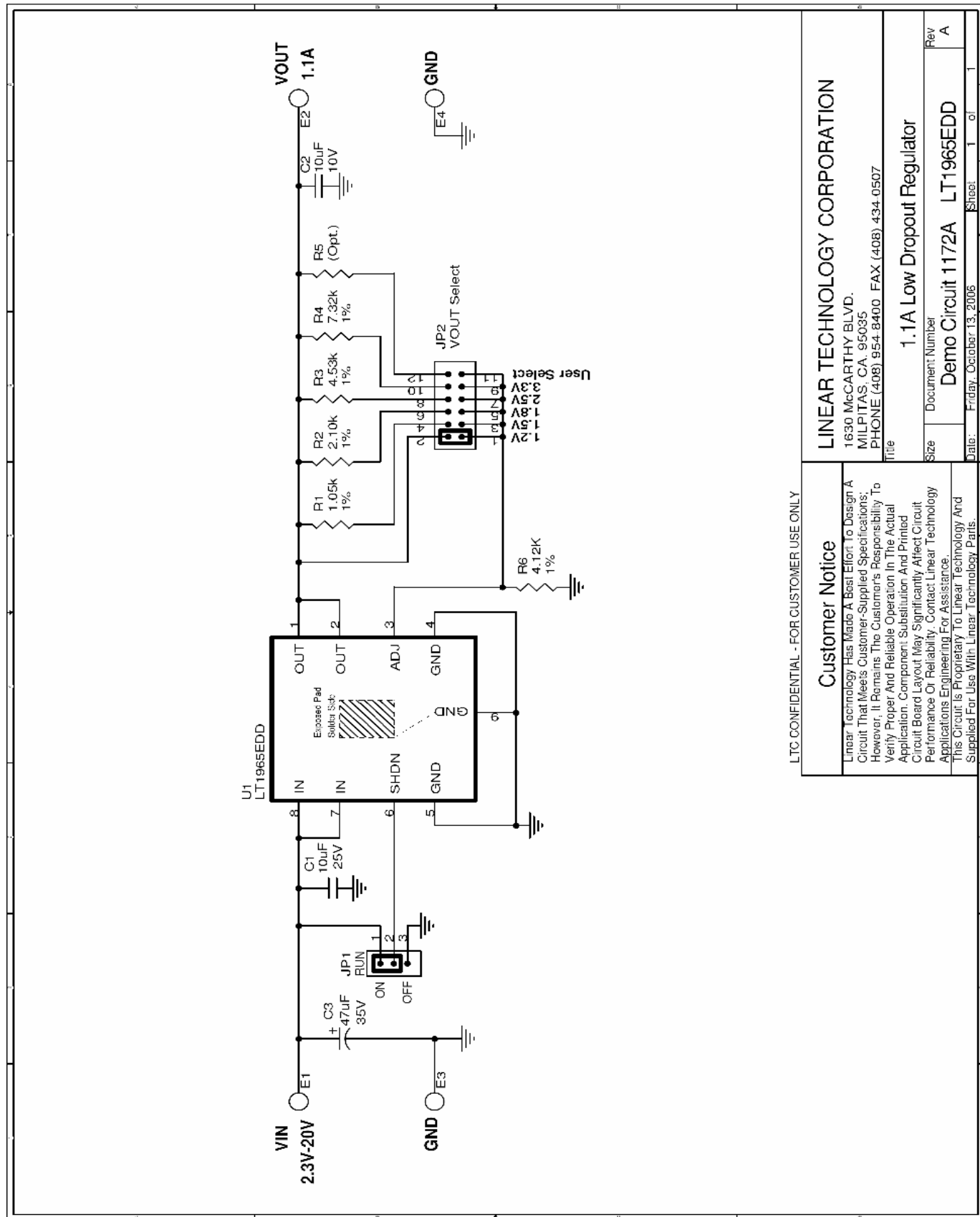


Figure 2. Measuring Input or Output Ripple



LTC CONFIDENTIAL - FOR CUSTOMER USE ONLY

<b>Customer Notice</b>	
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 Circuit 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.	
<b>LINEAR TECHNOLOGY CORPORATION</b> 1630 MCCARTHY BLVD. MILPITAS, CA, 95035 PHONE (408) 954-8400 FAX (408) 434-0507	
<b>1.1A Low Dropout Regulator</b>	
Document Number	LT1965EDD
Size	Rev A
Date: Friday, October 13, 2006	Sheet 1 of 1