DEMO CIRCUIT 1219
QUICK START GUIDE

LT3495, LT3495B, LT3495-1, and LT3495B-1
Micropower Low Noise Boost Converters With Output Disconnect

DESCRIPTION

Demonstration circuits 1219A-A, -B, -C and -D are Micropower Low Noise Boost Converters With Output Disconnect featuring the four different Lt3495 versions: LT3495, LT3495B, LT3495-1, and LT3495B-1. All versions convert a 3V-6V source to 15V. The –A and -B versions supply 75mA at 3Vin while the -C and -D supply 36mA. The –A and –C versions feature the LT3495EDDB and the LT3495EDDB-1 respectively, which have non-audible switching frequency over the entire load range.

All LT3495 versions feature a low noise control scheme, integrated output disconnect function, dimming control, and single output sense resistor. These circuits are intended for space-conscious applications such as OLED power, MP3 Players, and Low Noise Bias Supplies.

The LT3495 datasheet gives a complete description of the parts, operation and application information. The datasheet must be read in conjunction with this quick start guide for working on or modifying the demo circuit 1219.

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

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PERFORMANCE SUMMARY FOR DC1219A-A/LT3495 AND DC1219A-B/LT3495B

Specifications are at TA = 25°C

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
V_{IN}	Input Supply Range		3		6	V
V_{OUT}	Output Voltage Range	V_{IN} = 3.6V, I_{LOAD} = 75mA	14.6	15	15.4	V
V_{OUT}	Output Voltage Range	V_{IN} = 6V, I_{LOAD} = 75mA	14.6	15	15.4	V
RIPPLE		V_{IN} = 3.6V, I_{LOAD} = 75mA		10		mV
EFFICIENCY	Load at Vout	V_{IN} = 3.6V, I_{LOAD} = 75mA		80.5		%
EFFICIENCY	Load at Vout	V_{IN} = 6V, I_{LOAD} = 75mA		83.5		%

PERFORMANCE SUMMARY FOR DC1219A-C/LT3495-1 AND DC1219A-D/LT3495B-1

Specifications are at TA = 25°C

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
V_{IN}	Input Supply Range		3		6	V
V_{OUT}	Output Voltage Range	V_{IN} = 3.6V, I_{LOAD} = 36mA	14.6	15	15.4	V
V_{OUT}	Output Voltage Range	V_{IN} = 6V, I_{LOAD} = 36mA	14.6	15	15.4	V
RIPPLE		V_{IN} = 3.6V, I_{LOAD} = 36mA		10		mV
EFFICIENCY	Load at Vout	V_{IN} = 3.6V, I_{LOAD} = 36mA		82.5		%
EFFICIENCY	Load at Vout	V_{IN} = 6V, I_{LOAD} = 36mA		84.5		%

QUICK START PROCEDURE

Demonstration circuit 1219 is easy to set up to evaluate the performance of the LT3495, LT3495B, LT3495-1, and LT3495B-1. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

NOTE. When measuring the input or output voltage ripple, care must be taken to avoid a long ground lead on the oscilloscope probe. Measure the input or output voltage ripple by touching the probe tip directly across the Vin or Vout and GND terminals. See **Error! Reference source not found.** for proper scope probe technique.

1. Place jumpers in the following positions:

JP1 - Run

2. With power off, connect the input power supply to Vin and GND.

3. Turn on the power at the input.

Check for the proper output voltages. Vout = 14.6V to 15.4V.

NOTE. If there is no output, temporarily disconnect the load to make sure that the load is not set too high.

4. Once the proper output voltage is established, adjust the load within the operating range and observe the output voltage regulation, ripple voltage, efficiency and other parameters.

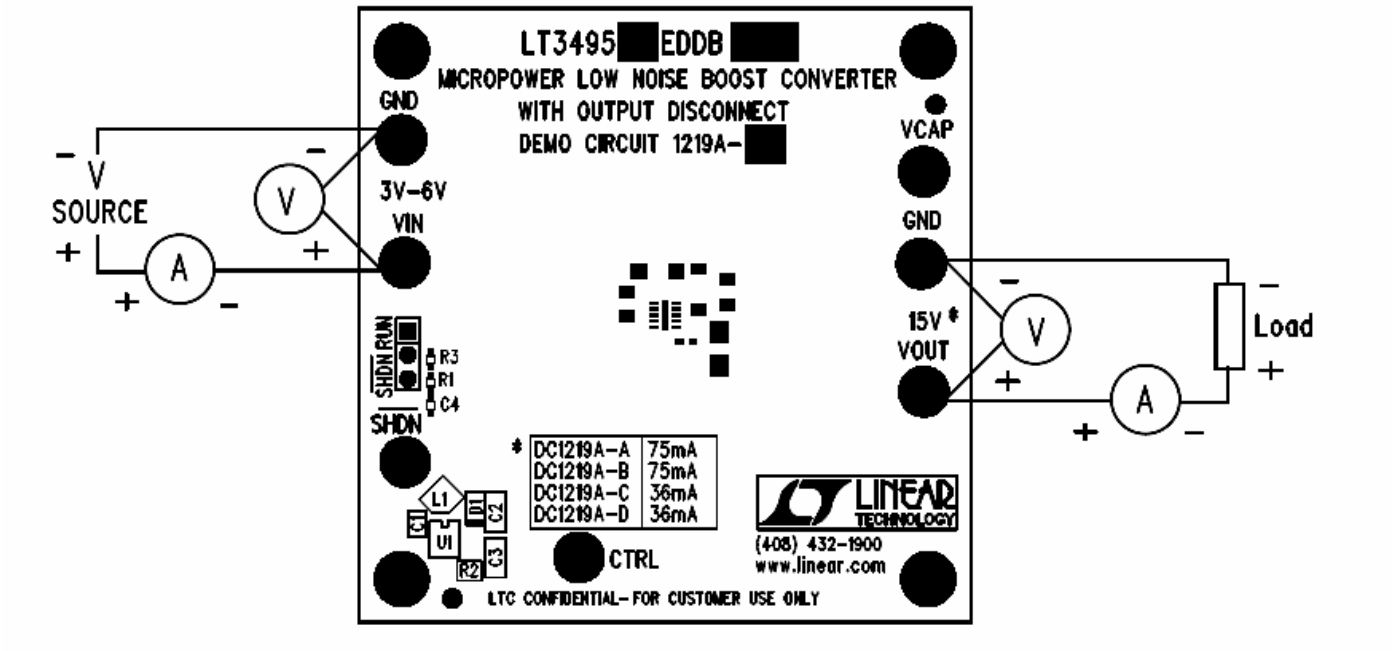


Figure 1. Proper Measurement Equipment Setup

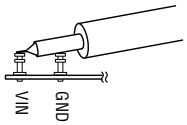
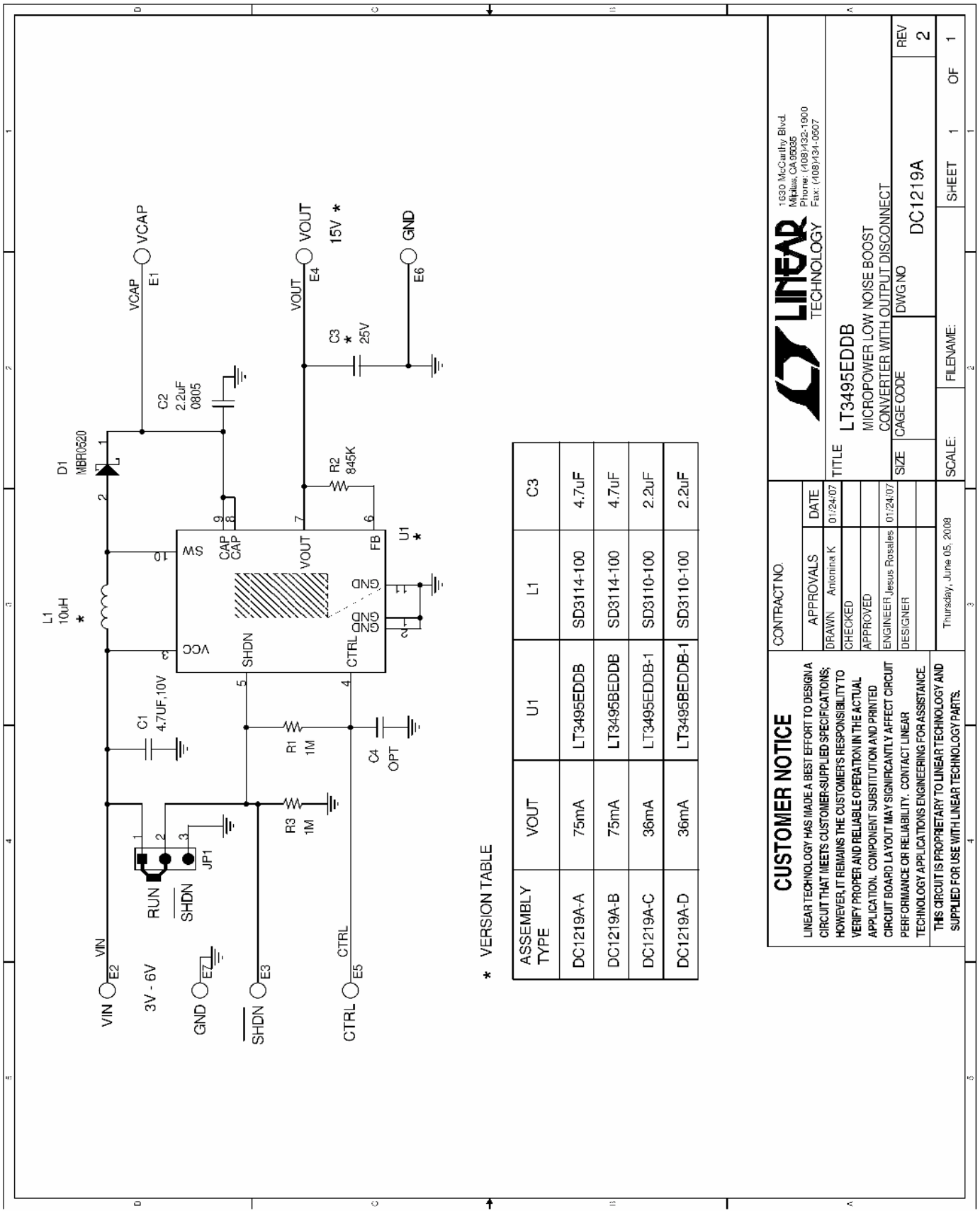


Figure 2. Measuring Input or output Ripple



* VERSION TABLE

ASSEMBLY TYPE	VOUT	U1	L1	C3
DC1219A-A	75mA	LT3495EDDB	SD3114-100	4.7uF
DC1219A-B	75mA	LT3495BEDDB	SD3114-100	4.7uF
DC1219A-C	36mA	LT3495EDDB-1	SD3110-100	2.2uF
DC1219A-D	36mA	LT3495BEDDB-1	SD3110-100	2.2uF

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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 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.

CONTRACT NO.

APPROVALS		DATE
DRAWN	Antonina K	01/24/07
CHECKED		
APPROVED		
ENGINEER	Jesus Rosales	01/24/07
DESIGNER		

Thursday, June 05, 2008

SCALE:

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SHEET 1 OF 1

LINEAR TECHNOLOGY

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TITLE

LT3495EDDB
MICROPOWER LOW NOISE BOOST CONVERTER WITH OUTPUT DISCONNECT

SIZE	CAGE CODE	DWG NO	REV
		DC1219A	2