

# QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1095

## MICROPOWER SYNCHRONOUS BUCK-BOOST CONVERTER

LTC3538

### DESCRIPTION

Demonstration circuit DC1095 is a micropower synchronous buck-boost converter based on the LTC3538 monolithic buck-boost regulator. The DC1095 has an input voltage range of 2.4V to 5.5V and an output of 3.3V @ 800mA. The converter can be set to operate in Fixed Frequency (PWM) or Burst Mode, providing high conversion efficiency over a wide range of load currents.

The LTC3538 comes in an 8 lead 2x3mm DFN package. These features make the DC1095 demo board an ideal circuit for use in Li-Ion battery-powered, hand-held applications such as PDAs, MP3 Players, and GPS Receivers.

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

### QUICK START PROCEDURE

Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

1. Set the Power Supply to 3.3Vin.
2. Set the Load from 0 – 800mA.

3. Vin can be adjusted between 2.4V and 5.5V (note however, max output current is lower than 800mA at Vin below 2.9V).

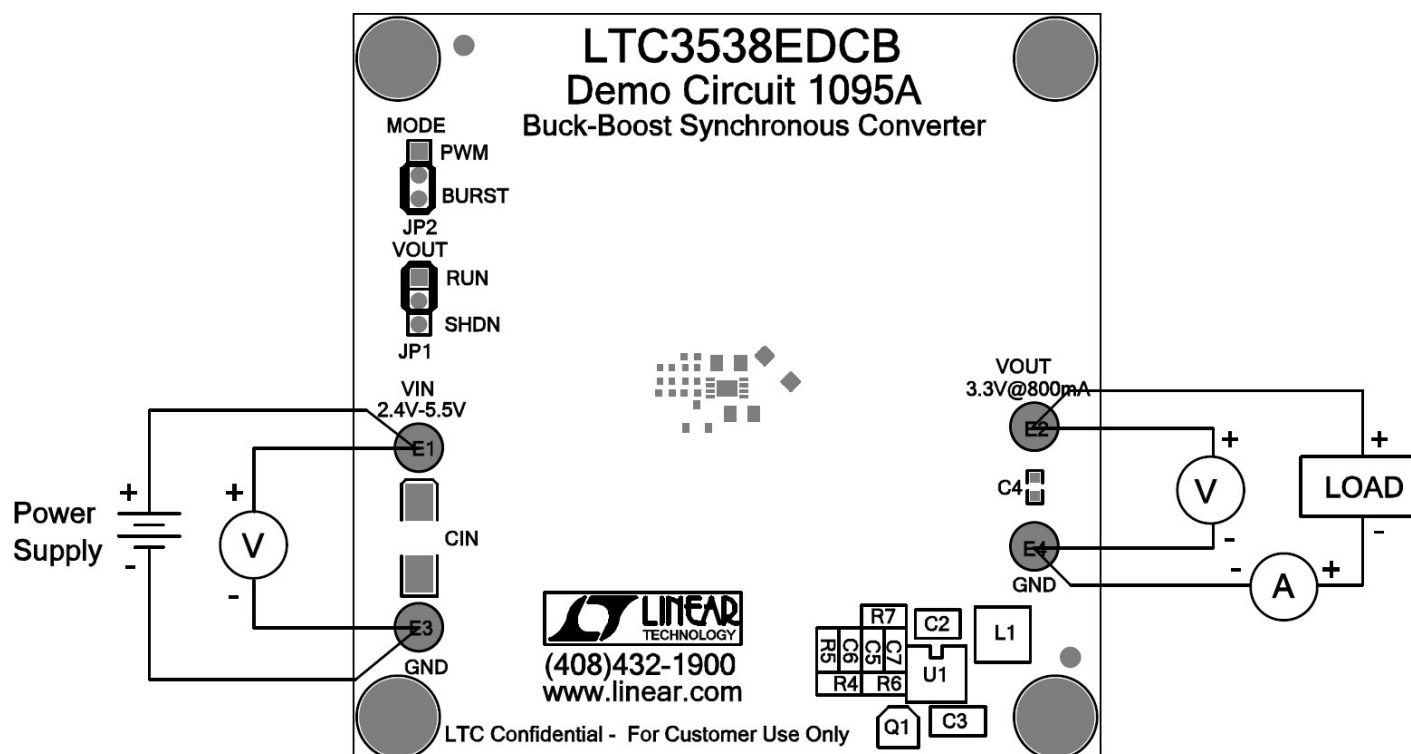


Figure 1. Proper Measurement Equipment Setup



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Item	Qty	Reference	Part Description	ManUfactUre / Part #
<b>REQUIRED CIRCUIT COMPONENTS</b>				
1	1	Cin	Cap., Tant. 150uF 10V 10%	AVX TAJC157K010
2	1	C2	Cap., X5R 10uF 6.3V 20%	Taiyo Yuden JMK212BJ106MG-T
3	1	C3	Cap., X5R 22uF 6.3V 20%	Taiyo Yuden JMK212BJ226MG-T
4	1	C4	Cap., X5R 1uF 6.3V 10%	Taiyo Yuden JMK107BJ105KA-T
5	1	C5	Cap., X7R 330pF 25V 10%	AVX 04023C331KAT2A
6	1	C6	Cap., NPO 33pF 25V 10%	AVX 04023A330KAT2A
7	1	L1	Inductor, 3.3uH	Sumida CDRH2D18/HPNP-3R3NC
8	1	Q1	FET N-Chan., 25V	Fairchild Semi. FDV301N
9	2	R3,R2	Res., Chip 1.0M 1/16W 5%	VISHAY,CRCW04021M00JNED
10	1	R4	Res., Chip 10K 1/16W 1%	VISHAY,CRCW040210K0FKED
11	1	R5	Res., Chip 464K 0.06W 1%	VISHAY,CRCW0402464KFKED
12	1	R6	Res., Chip 15K 1/16W 1%	VISHAY,CRCW040215K0FKED
13	1	R7	Res., Chip 200K 0.06W 1%	VISHAY,CRCW0402200FKED
14	1	U1	I.C., Buck Converter	Linear Tech. Corp. LTC3538EDCB
<b>ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS</b>				
1	0	C1,C7 (Opt)	Cap., 0402 TBD	
2	0	D1,D2,D3 (Opt)	Schottky Diodes, 1A/20V	Philips PMEG2010EA
3	0	R1 (Opt)	Res., 0402 TBD	