

DESCRIPTION

Demonstration circuit 553 is a Triple Output TFT-LCD Supply featuring the LTC3450EUD. The LTC3450 is a complete power converter solution for small thin film transistor (TFT) liquid crystal display (LCD) panels. The device operates from a single Lithium-Ion cell, 2- to 3-cell alkaline input or any low impedance voltage source between 1.5V and 4.6V.

The synchronous boost converter generates a low noise, high efficiency 5.1V, 10mA supply. Internal charge pumps are used to generate 10V, 15V and -5V, -10V or -15V. Output sequencing is controlled inter-

nally to insure proper initialization of the LCD panel. A master shutdown input reduces quiescent current to $\leq 2\mu\text{A}$ and quickly discharges each output for rapid turn off of the LCD panel. The LTC3450 is offered in a low profile (0.8mm max) 3x3 QFN package, minimizing solution profile and footprint.

Gerber files for this circuit are available. Call the LTC Factory.

LTC is a trademark of Linear Technology Corporation.

QUICK START PROCEDURE

Demonstration circuit 553 is easy to set up to evaluate the performance of the LTC3450EUD. 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 Figure 2 for proper scope probe technique.

1. Place jumpers in the following positions:

SCAN/BLANK	SCAN
ON/OFF	ON

2. With power off, connect the input power supply to VIN and GND.
3. Turn on the power at the input and adjust to proper operating range.

NOTE: Do not exceed abs. Max. voltage of 7volts as damage to part may result.

4. Check for the proper output voltages. AVDD= 5.1V. VGH= 15V. VGL= -10V. If there is no output, temporarily disconnect the load to make sure that the load is not set too high.
5. Once the proper output voltages are established, adjust the loads within their operating range and observe the output voltage regulation, ripple voltage, efficiency and other parameters.

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 553

TRIPLE OUTPUT TFT-LCD SUPPLY

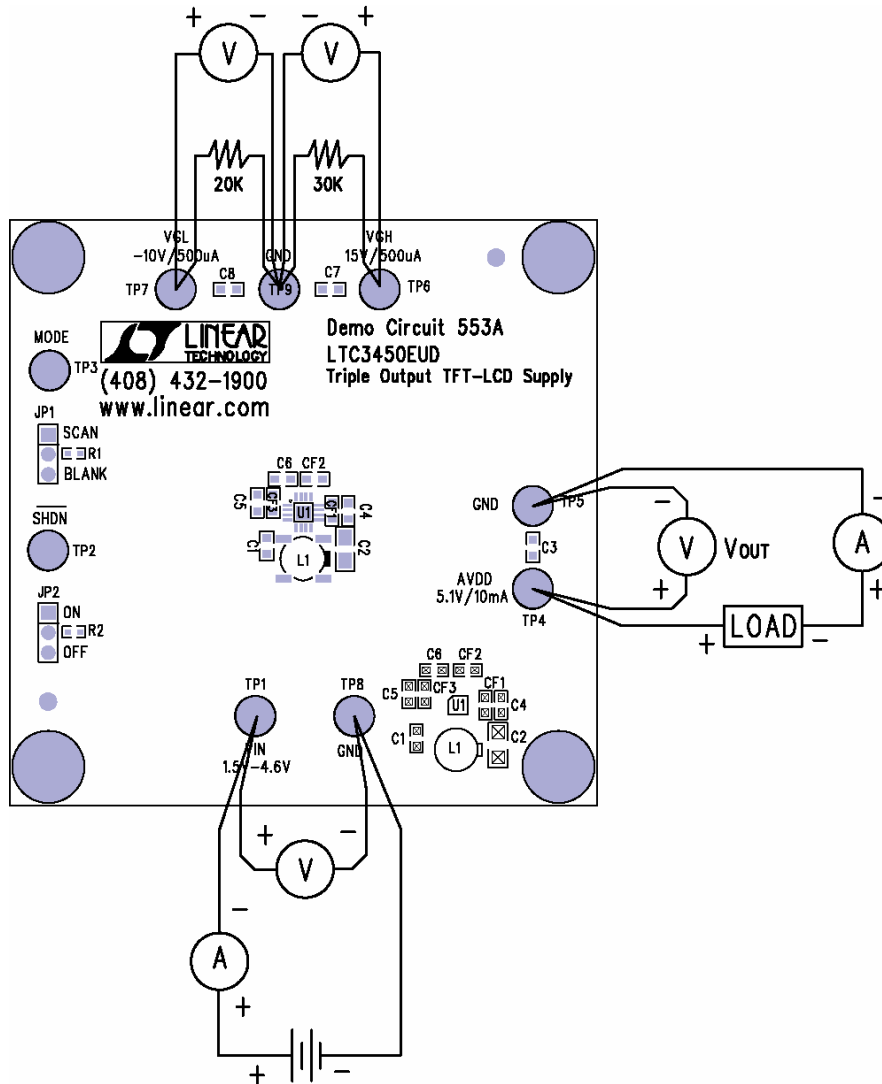


Figure 1. Proper Measurement Equipment Setup

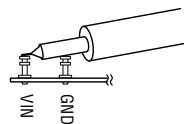
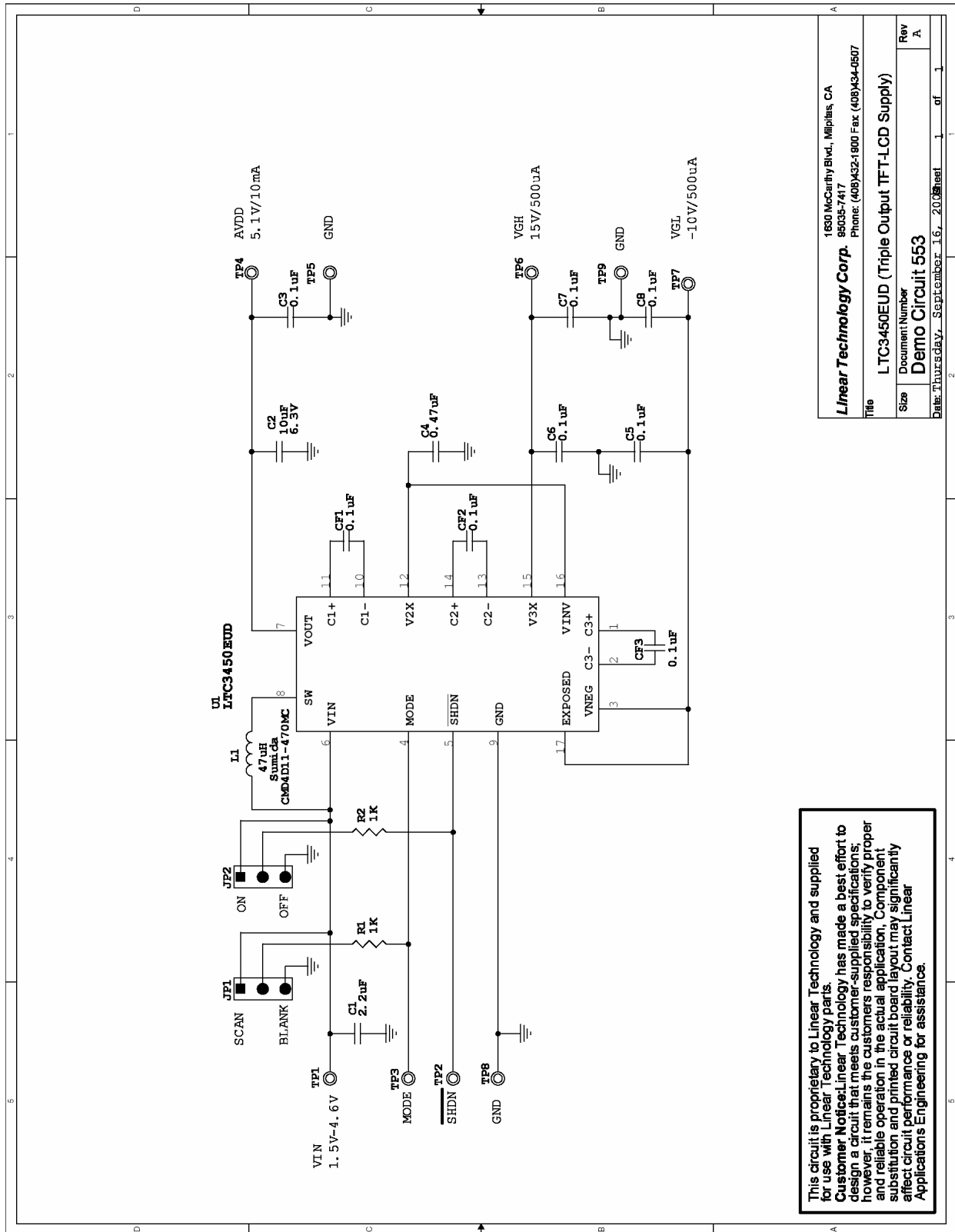


Figure 2. Measuring Input or Output Ripple

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This circuit is proprietary to Linear Technology and supplied for use with Linear Technology parts. **Customer Notice:** 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 Applications Engineering for assistance.

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