LT1930A

DESCRIPTION

Demonstration circuit 634 is a low noise avalanche photodiode (APD) bias supply featuring the LT1930A.

This circuit takes an input voltage from 3V to 5.5V. The output voltage can be adjusted from 30V to 90V by applying a control voltage (4.5V to 0V) to the VPROGRAM pin.

The 2.2MHz switching frequency helps to minimize the circuit size.

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

Table 1. Performance Summary

PARAMETER	CONDITION	VALUE
Typical Output Ripple (V_{OUT} = 30V)	V_{IN} = 3V, LOAD = 47kΩ, 10MHz bandwidth	340μV_{P-P}
Typical Output Ripple (V_{OUT} = 50V)	V_{IN} = 3V, LOAD = 47kΩ, 10MHz bandwidth	400μV_{P-P}
Typical Output Ripple (V_{OUT} = 70V)	V_{IN} = 3V, LOAD = 47kΩ, 10MHz bandwidth	535μV_{P-P}
Nominal Switching Frequency		2.2MHz

QUICK START PROCEDURE

Demonstration circuit 634 is easy to set up to evaluate the performance of the LT1930A. Follow the procedure below:

1. Before hooking up the input supply and control voltage to the demo board, set the input supply voltage between 3V and 5.5V; set the control voltage between 0V and 4.5V. Then turn off the supplies.

2. Connect input supply, control voltage, load and meters as shown in Figure 1. If you want to monitor output ripple, also connect the BNC connector to the oscilloscope through a coaxial cable.

3. Make sure your setup is safe and the RUN/SD jumper is in the RUN position. **Remember, the output voltage will be 90V when the control voltage is 0V.**

4. Turn on the power supplies and meters. Adjust the control voltage for the desired output voltage.

5. Once the proper output voltage is established. Check the ripple voltage via the coaxial cable. (**See Application Note 92 for detailed discussion on low noise measurement techniques.**)
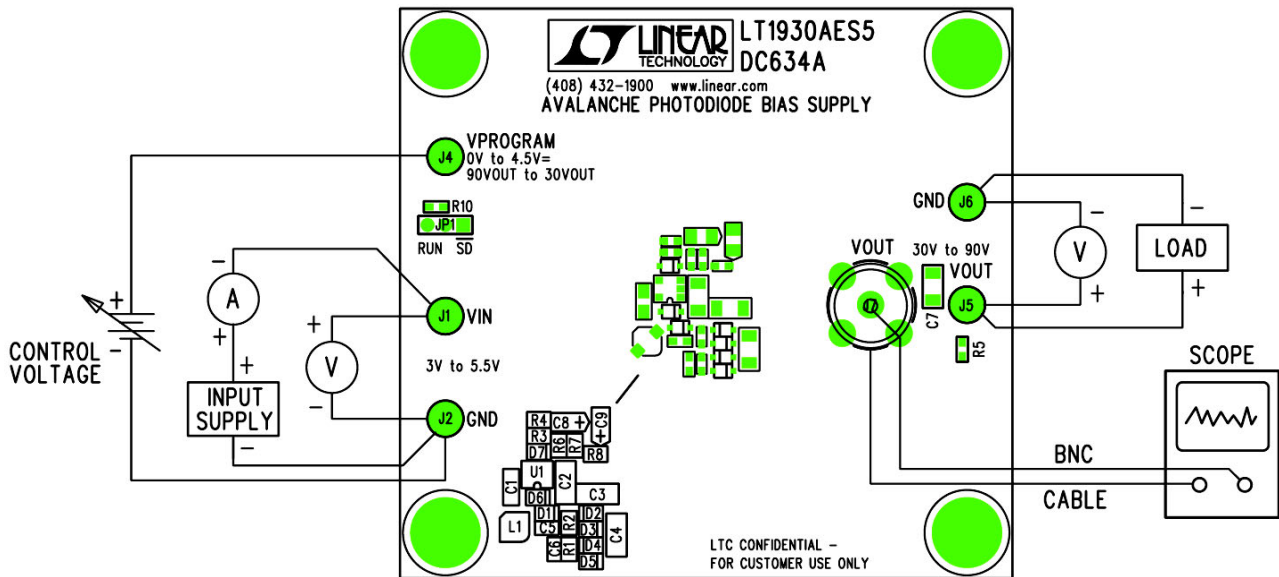
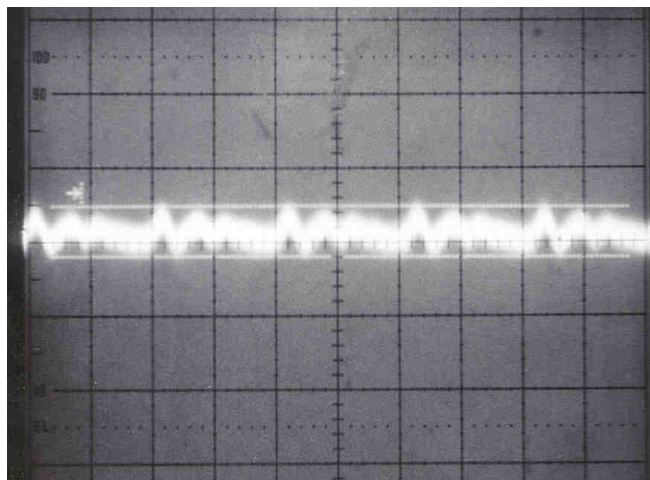**Figure 1. Proper Measurement Equipment Setup**

Figure 2. LT1930A Output Ripple (V_{IN}=3V, V_{OUT}=30V, LOAD = 47kΩ; 0.5mV/div ac coupled; 10MHz bandwidth)
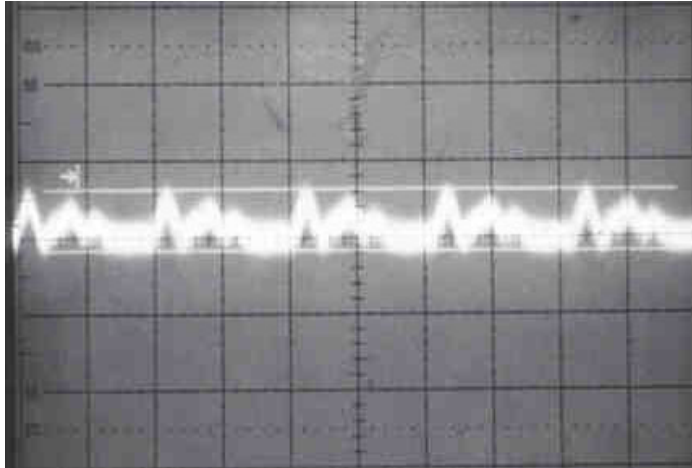
Figure 3. LT1930A Output Ripple (V_{IN}=3V, V_{OUT}=50V, LOAD = 47kΩ; 0.5mV/div ac coupled; 10MHz bandwidth)
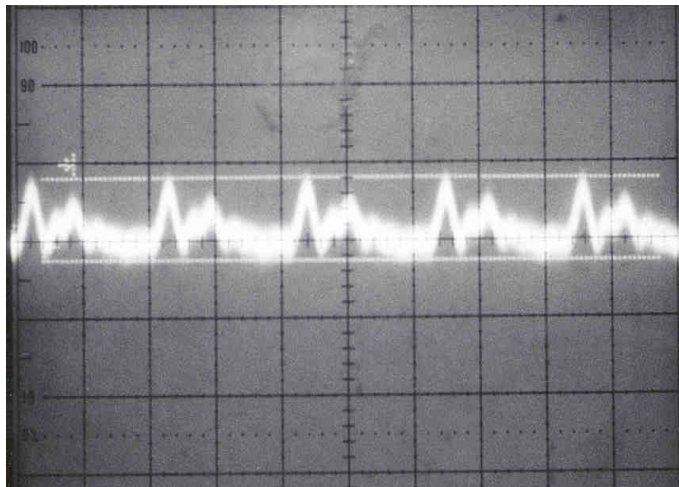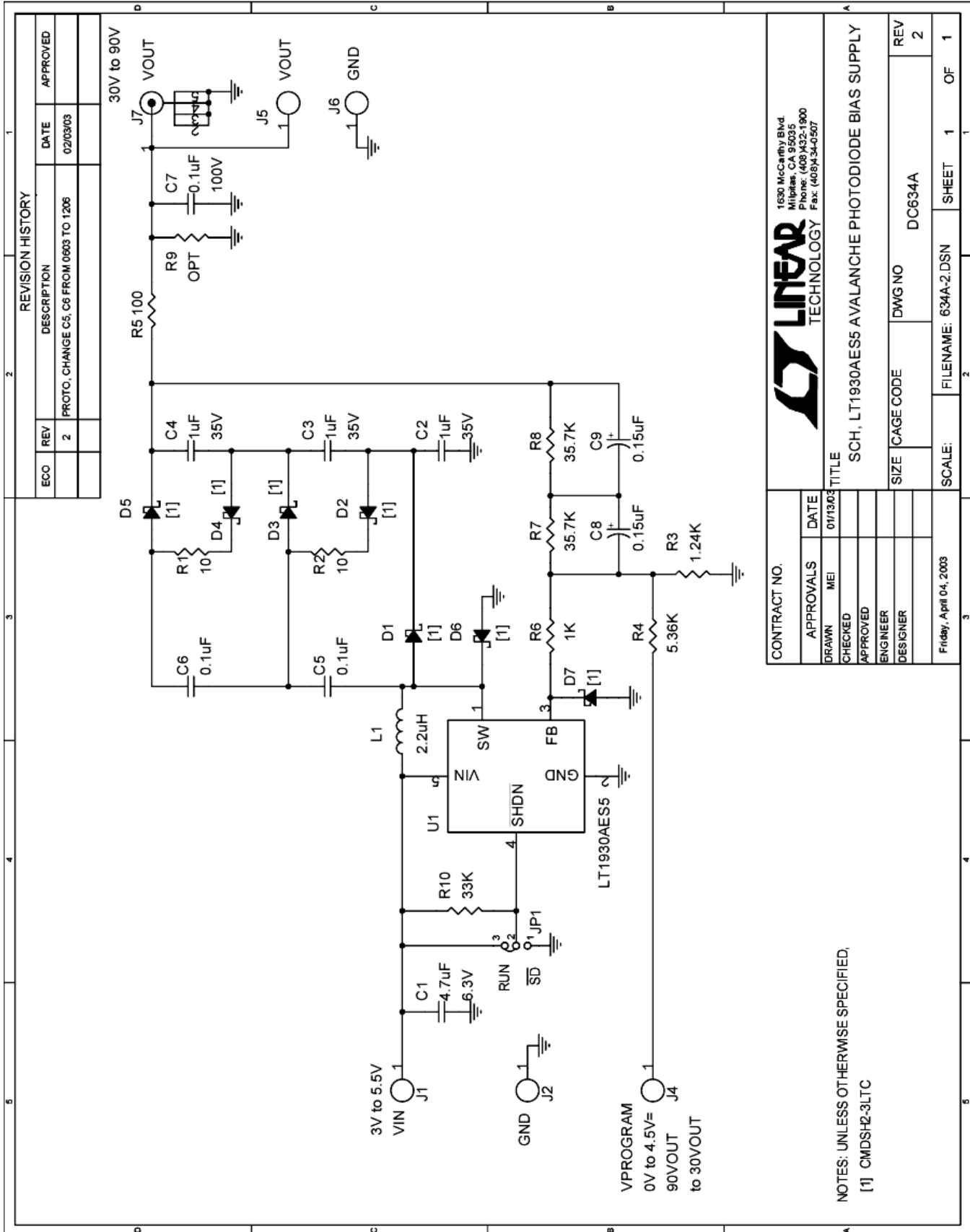

Figure 4. LT1930A Output Ripple (V_{IN}=3V, V_{OUT}=70V, LOAD = 47kΩ; 0.5mV/div ac coupled; 10MHz bandwidth)

REVISION HISTORY

ECO	REV	DESCRIPTION	DATE	APPROVED
	2	PROTO, CHANGE C5, C6 FROM 0603 TO 1206	02/03/03	

CONTRACT NO.

APPROVALS		DATE
DRAWN	MEI	01/13/03
CHECKED		
APPROVED		
ENGINEER		
DESIGNER		

Friday, April 04, 2003

1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900
Fax: (408)434-0507

LINEAR TECHNOLOGY

TITLE: SCH, LT1930AES5 AVALANCHE PHOTODIODE BIAS SUPPLY

SIZE | CAGE CODE | DWG NO: DC634A
SCALE: | FILENAME: 634A-2.DSN | SHEET 1 OF 1
REV 2

NOTES: UNLESS OTHERWISE SPECIFIED,
[1] CMDSH2-3LTC

4

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Power Management IC Development Tools *category:*

Click to view products by Analog Devices *manufacturer:*

Other Similar products are found below :

EVAL-ADM1168LQEBZ EVB-EP5348UI MIC23451-AAAYFL EV MIC5281YMME EV DA9063-EVAL ADP122-3.3-EVALZ ADP130-0.8-EVALZ ADP130-1.2-EVALZ ADP130-1.5-EVALZ ADP130-1.8-EVALZ ADP1714-3.3-EVALZ ADP1716-2.5-EVALZ ADP1740-1.5-EVALZ ADP1752-1.5-EVALZ ADP1828LC-EVALZ ADP1870-0.3-EVALZ ADP1871-0.6-EVALZ ADP1873-0.6-EVALZ ADP1874-0.3-EVALZ ADP1882-1.0-EVALZ ADP199CB-EVALZ ADP2102-1.25-EVALZ ADP2102-1.875EVALZ ADP2102-1.8-EVALZ ADP2102-2-EVALZ ADP2102-3-EVALZ ADP2102-4-EVALZ ADP2106-1.8-EVALZ ADP2147CB-110EVALZ AS3606-DB BQ24010EVM BQ24075TEVM BQ24155EVM BQ24157EVM-697 BQ24160EVM-742 BQ24296MEVM-655 BQ25010EVM BQ3055EVM NCV891330PD50GEVB ISLUSBI2CKIT1Z LM2744EVAL LM2854EVAL LM3658SD-AEV/NOPB LM3658SDEV/NOPB LM3691TL-1.8EV/NOPB LM4510SDEV/NOPB LM5033SD-EVAL LP38512TS-1.8EV EVAL-ADM1186-1MBZ EVAL-ADM1186-2MBZ