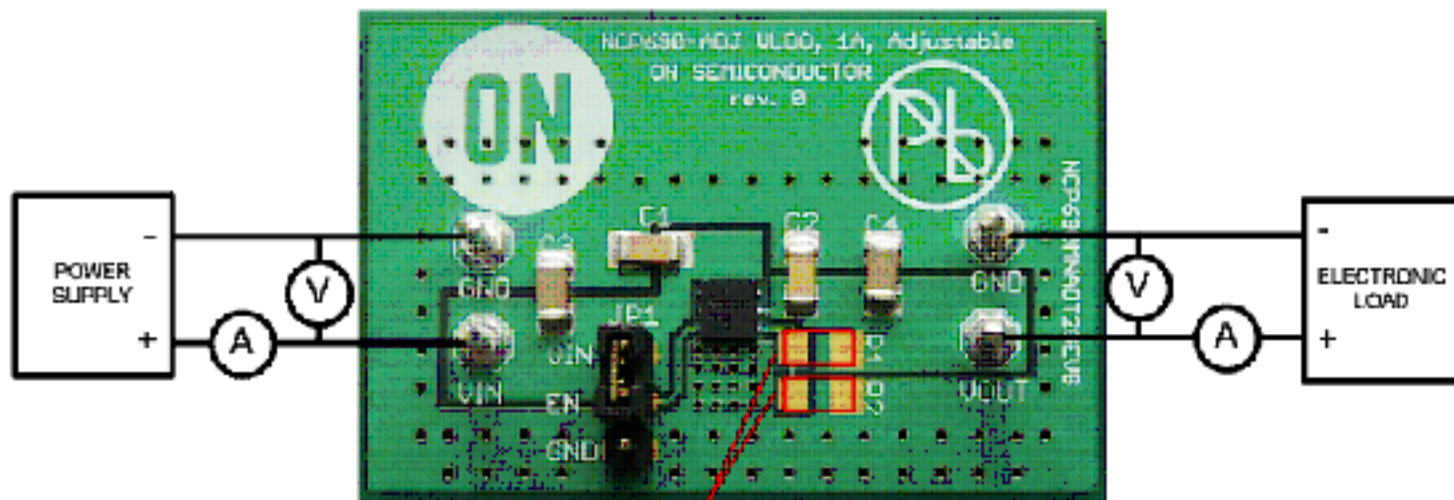


## Test Procedure for the NCP690, 1A, Adjustable LDO

ON Semiconductor



### Test Setup:



Please solder feedback resistors to program the output voltage. The resistors should be 1206 SMD type.

\*During the tests please leave the JP1 disconnected

Figure 1

## Test Procedure for the NCP690, 1A, Adjustable LDO

ON Semiconductor



### Required Equipment:

2 x Voltmeters  
2 x Ampere meters  
DC Power Supply – 6V, 1A  
Electronic Load

### Required Components:

R1, R2 - Feedback Resistors required to set the Output Voltage.

### Test Procedure:

The feedback resistors R1 and R2 have to be soldered before any measurement could be started (Figure 1). Please use the following equation to determine the appropriate value of feedback resistors to be soldered on the demoboard:

$$V_{OUT} = 1.25(1 + \frac{R1}{R2})$$

The table below shows the example values of R1, R2 resistors for some typical Output Voltages:

| Desired Output Voltage [V] | Feedback Resistors |         | Set Output Voltage [V] | Output Voltage Error [mV] | Resistor Divider Current I <sub>DIV</sub> [μA] |
|----------------------------|--------------------|---------|------------------------|---------------------------|------------------------------------------------|
|                            | R1 [kΩ]            | R2 [kΩ] |                        |                           |                                                |
| 1.50                       | 2                  | 10      | 1.5000                 | 0                         | 125                                            |
| 1.80                       | 1.6                | 3.6     | 1.8055                 | + 5.5                     | 347                                            |
| 2.50                       | 9.1                | 9.1     | 2.5000                 | 0                         | 137                                            |
| 2.70                       | 3.9                | 3.3     | 2.7300                 | + 27.3                    | 378                                            |
| 3.30                       | 15                 | 9.1     | 3.3104                 | + 10.4                    | 137                                            |
| 3.60                       | 6.8                | 3.6     | 3.6111                 | + 11.1                    | 347                                            |
| 5.00                       | 30                 | 10      | 5.0000                 | 0                         | 125                                            |

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Please also note that the feedback resistors should be chosen to satisfy the minimum output current requirement, which is 100 $\mu$ A.

1. Connect the test setup as shown on Figure 1,
2. Set the Electronic Load to for required load current,
3. Apply the Input Voltage to satisfy the minimum Dropout requirement,
4. Verify that the Voltage Regulator turns on and that the output voltage is equal to the required nominal value,
5. Turn off the input power supply
6. End of the test