



Test Procedure for the NCP729FC285GEVB Evaluation Board

Test Setup 1:

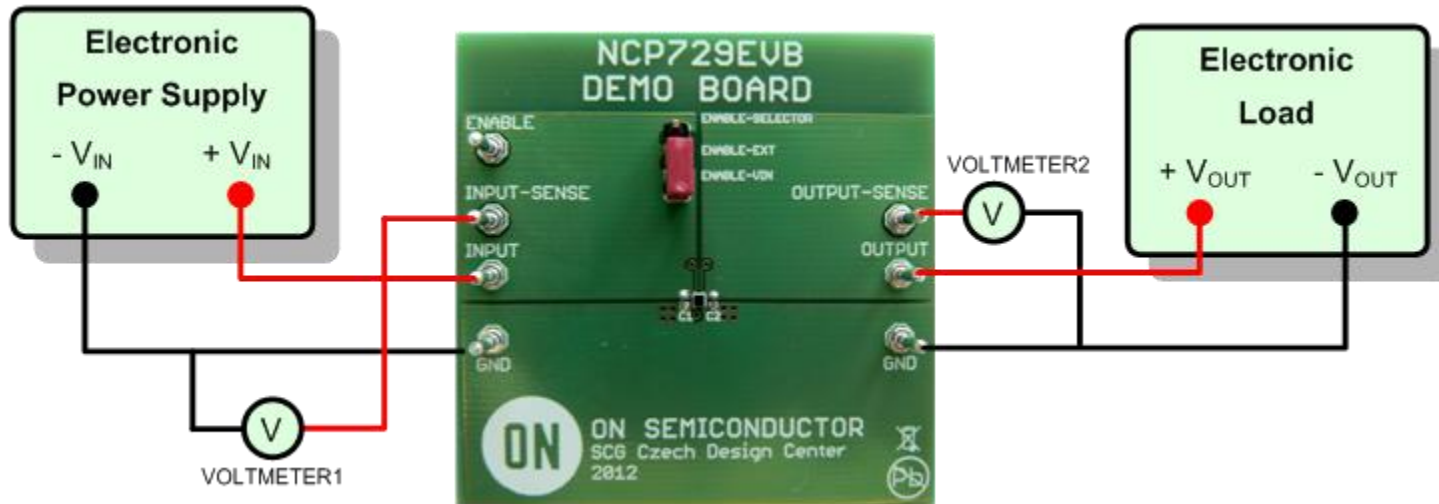


Figure 1. Test setup for the measurements of basic regulation characteristics

Required Equipment:

- 2 x Voltmeters
- 2 x Ampere meters
- DC Power Supply – Max. 5.5V
- Electronic Load

**Test Procedure for the Measurement of Line Regulation parameter using Test Setup 1:**

1. Connect the test setup as shown on Figure 1,
2. Set the electronic load for the required load current e.g. $I_{OUT} = 10\text{mA}$,
3. Apply the required minimum input voltage e.g. $V_{IN_MIN} = V_{OUT_NOM} + 0.3\text{V}^{(1)}$,
4. Note the output voltage reading V_{OUT1} indicated by VOTLMETER2,
5. Apply the required maximum input voltage e.g. $V_{IN_MAX} = V_{OUT_NOM} + 1.3\text{V}^{(1)}$,
6. Note the output voltage reading V_{OUT2} indicated by VOTLMETER2,
7. Calculate the Line Regulation parameter as:
$$\text{Reg}_{LINE} = (V_{OUT2} - V_{OUT1}) / (V_{IN_MAX} - V_{IN_MIN}) \text{ [V/V]}$$
8. Turn off the electronic load. Turn off the input power supply,
9. End of the test.

Test Procedure for the Measurement of Load Regulation parameter using Test Setup 1:

1. Connect the test setup as shown on Figure 1,
2. Set the electronic load for the required minimum output current e.g. $I_{OUT_MIN} = 1\text{mA}$,
3. Apply the desired input voltage e.g. $V_{IN} = V_{OUT_NOM} + 0.3\text{V}^{(1)}$,
4. Note the output voltage reading V_{OUT1} indicated by VOTLMETER2,
5. Set the electronic load for the required maximum output current e.g. $I_{OUT_MAX} = 150\text{mA}$,
6. Note the output voltage reading V_{OUT2} indicated by VOTLMETER2,
7. Calculate the Load Regulation parameter as:
$$\text{Reg}_{LOAD} = (V_{OUT2} - V_{OUT1}) / (I_{OUT_MAX} - I_{OUT_MIN}) \text{ [V/A]}$$
8. Turn off the electronic load. Turn off the input power supply,
9. End of the test.

(1) V_{OUT_NOM} is the nominal output voltage level of the regulator. NCP729 operating V_{IN} must be in the range $2.0\text{V} \leq V_{IN} \leq 5.5\text{V}$