



Test Procedure for the NCP729FC28GEVB Evaluation Board

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Test Setup 1:

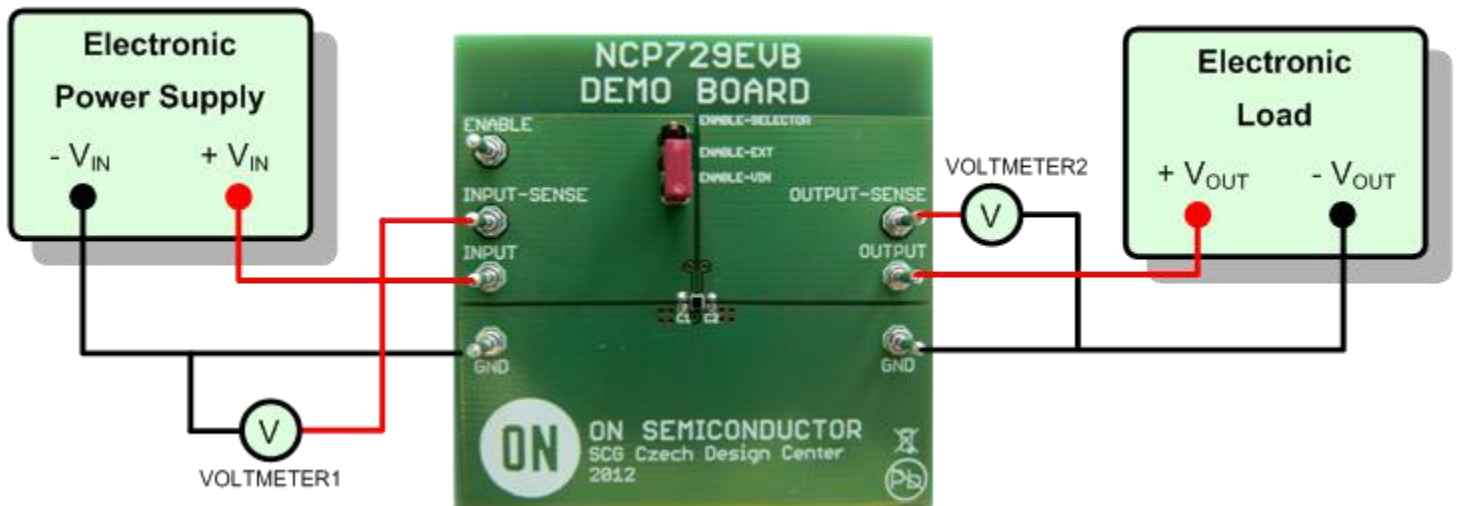


Figure 1. Test setup for the measurements of basic regulation characteristics

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⁾



- Note the output voltage reading V_{OUT1} indicated by VOTLMETER2
- Apply the required maximum input voltage e.g. $V_{IN_MAX} = V_{OUT_NOM} + 1.3V$ ⁽¹⁾
- Note the output voltage reading V_{OUT2} indicated by VOTLMETER2,
- Calculate the Line Regulation parameter as:
$$Reg_{LINE} = (V_{OUT2} - V_{OUT1}) / (V_{IN_MAX} - V_{IN_MIN}) [V/V]$$
- Turn off the electronic load. Turn off the input power supply
- End of the test

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

- Connect the test setup as shown on Figure 1
- Set the electronic load for the required minimum output current e.g. $I_{OUT_MIN} = 1mA$
- Apply the desired input voltage e.g. $V_{IN} = V_{OUT_NOM} + 0.3V$ ⁽¹⁾
- Note the output voltage reading V_{OUT1} indicated by VOTLMETER2
- Set the electronic load for the required maximum output current e.g. $I_{OUT_MAX} = 150mA$
- Note the output voltage reading V_{OUT2} indicated by VOTLMETER2
- Calculate the Load Regulation parameter as:
$$Reg_{LOAD} = (V_{OUT2} - V_{OUT1}) / (I_{OUT_MAX} - I_{OUT_MIN}) [V/A]$$
- Turn off the electronic load. Turn off the input power supply
- 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 $2.0V \leq V_{IN} \leq 5.5V$