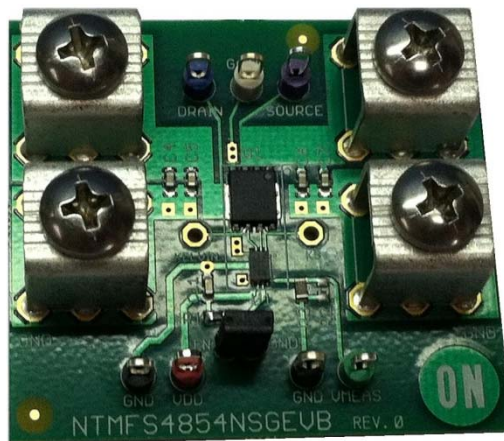




ON Semiconductor®

# Test Procedure for the NTMFS4854NSGEVB Evaluation Board

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## **Equipment List:**

- **VIN DC Power Supply with Voltage Sense Lines** – Capable of supplying 2 V / 12 A
- **VDD DC Power Supply** – Capable of supplying 5 V / 2 A
- **Constant Current Electronic Load** – Capable of supplying 10 A continuous current
- **Digital Voltage Meters** – Capable of measuring 0 – 2 V DC
- **Digital Current Meter** – Capable of measuring 0 – 10 A DC
- **VMEAS Precision Digital Voltage Meter** – Capable of measuring down to 0.1 mV

**IMPORTANT! REMOVE THE JUMPER CONNECTION BETWEEN EN AND GND PRIOR TO TESTING.**

# Evaluation Board Test Procedure

## 1.0 Basic Function Test (No Load Applied)

1. Make sure all power is off.
2. Connect the evaluation board as shown in Figure 1 below.
3. Apply 5.0 V to VDD. Measure the VDD voltage using a digital voltage meter, connected at the evaluation board terminals. Adjust the VDD power supply as needed to obtain  $5.0\text{ V} \pm 1\%$  at the evaluation board terminals.
4. Apply 1.5 V to VIN. Measure the VIN voltage using a digital voltage meter, connected at the evaluation board terminals. Adjust the VIN power supply as needed to obtain  $1.5\text{ V} \pm 1\%$  at the evaluation board terminals.
5. Measure VOUT using a digital voltage meter, connected at the evaluation board terminals. Verify that VOUT is  $1.5\text{ V} \pm 1\%$ .
6. Turn off the VIN power supply, followed by the VDD power supply.

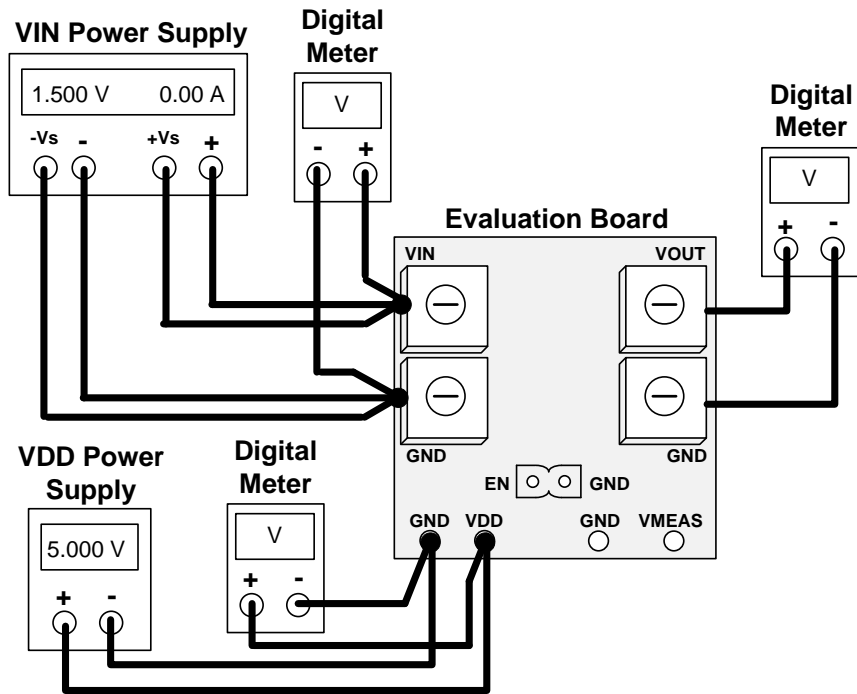


Figure 1. Evaluation Board Setup for Basic Function Test

## 2.0 ENABLE Function Test (No Load Applied)

1. Make sure all power is off.
2. Connect the evaluation board as shown in Figure 2 below (except for the jumper in blue).
3. Apply 5.0 V to VDD. Measure the VDD voltage using a digital voltage meter, connected at the evaluation board terminals. Adjust the VDD power supply as needed to obtain  $5.0\text{ V} \pm 1\%$  at the evaluation board terminals.
4. Apply 1.5 V to VIN. Measure the VIN voltage using a digital voltage meter, connected at the evaluation board terminals. Adjust the VIN power supply as needed to obtain  $1.5\text{ V} \pm 1\%$  at the evaluation board terminals.
5. Measure VOUT using a digital voltage meter, connected at the evaluation board terminals. Verify that VOUT is  $1.5\text{ V} \pm 1\%$ .
6. Attach the jumper connecting EN and GND, as shown in blue in Figure 2.
7. Measure VOUT using a digital voltage meter, connected at the evaluation board terminals. Verify that VOUT drops to  $0\text{ V} \pm 1\%$ .
8. Remove the jumper between EN and GND.
9. Measure VOUT using a digital voltage meter, connected at the evaluation board terminals. Verify that VOUT returns to  $1.5\text{ V} \pm 1\%$ .
10. Turn off the VIN power supply, followed by the VDD power supply.

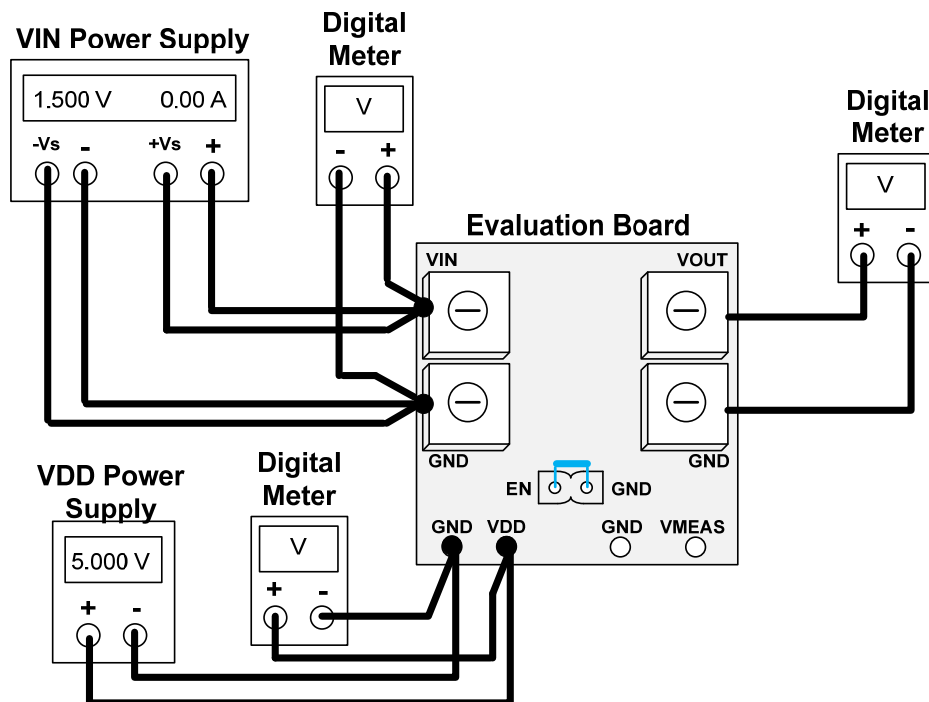


Figure 2. Evaluation Board Setup for ENABLE Function Test

### 3.0 Board Function Test with a 5 Amp Load Applied

1. Make sure all power is off.
2. Connect the evaluation board as shown in Figure 3 below.
3. Apply 5.0 V to VDD. Measure the VDD voltage using a digital voltage meter, connected at the evaluation board terminals. Adjust the VDD power supply as needed to obtain  $5.0\text{ V} \pm 1\%$  at the evaluation board terminals.
4. Apply 1.5 V to VIN. Measure the VIN voltage using a digital voltage meter, connected at the evaluation board terminals. Adjust the VIN power supply as needed to obtain  $1.5\text{ V} \pm 1\%$  at the evaluation board terminals.
5. Apply a constant current electronic load of 5 A to VOUT. Adjust the electronic load as needed to obtain  $5.0\text{ A} \pm 1\%$  on the digital current meter.
6. Measure VMEAS using the precision digital voltage meter, connected at the evaluation board terminals.
7. Verify that VMEAS is  $376\text{ mV} \pm 8\%$ .
8. Turn off the electronic load.
9. Turn off the VIN power supply, followed by the VDD power supply.

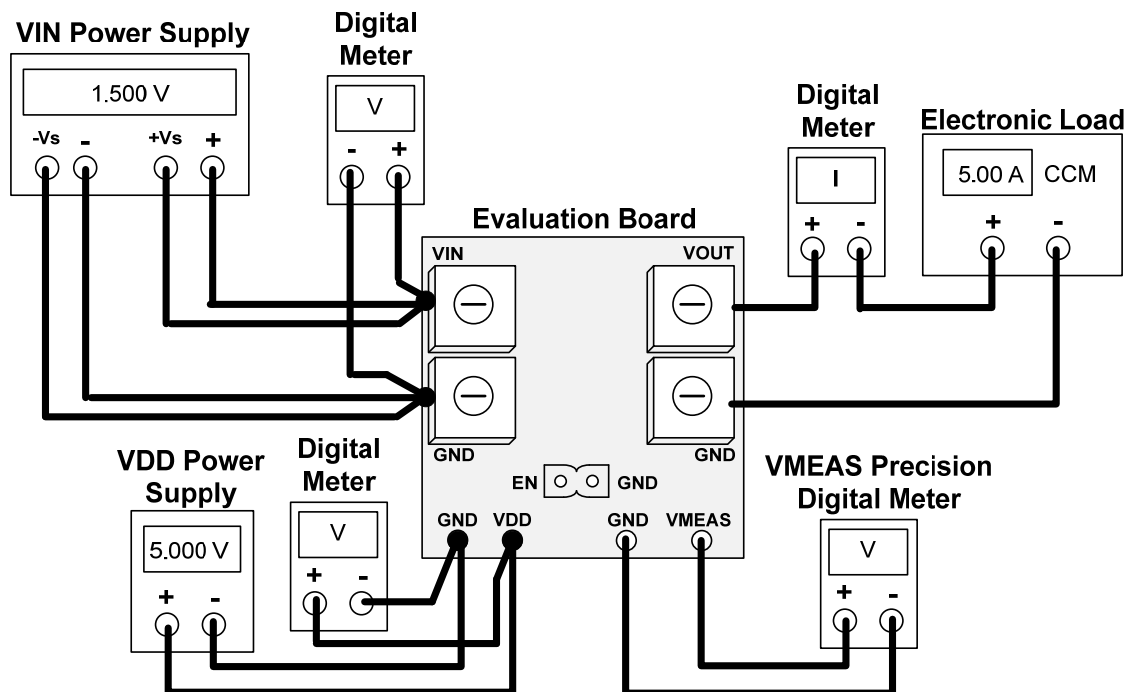


Figure 3. Evaluation Board Setup for 5 A Load Function Test



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.