

Quickstart guide PROFET™ +2 12V demoboard

PROFET™ +2 12V high-side switches

Application setup

The setup procedure involves connecting a common motherboard (MB) and a PROFET™ +2 12V daughterboard (DB) (1-channel, 2-channel or 4-channel) for bench testing.

Note: Required equipment includes two power supply rails (+ 13.5 V and + 3.3 V/+ 5 V), a digital voltmeter (DVM) and/or oscilloscope.

Figure 1 below illustrates the implementation of the quickstart setup for a PROFET™ +2 12V device.

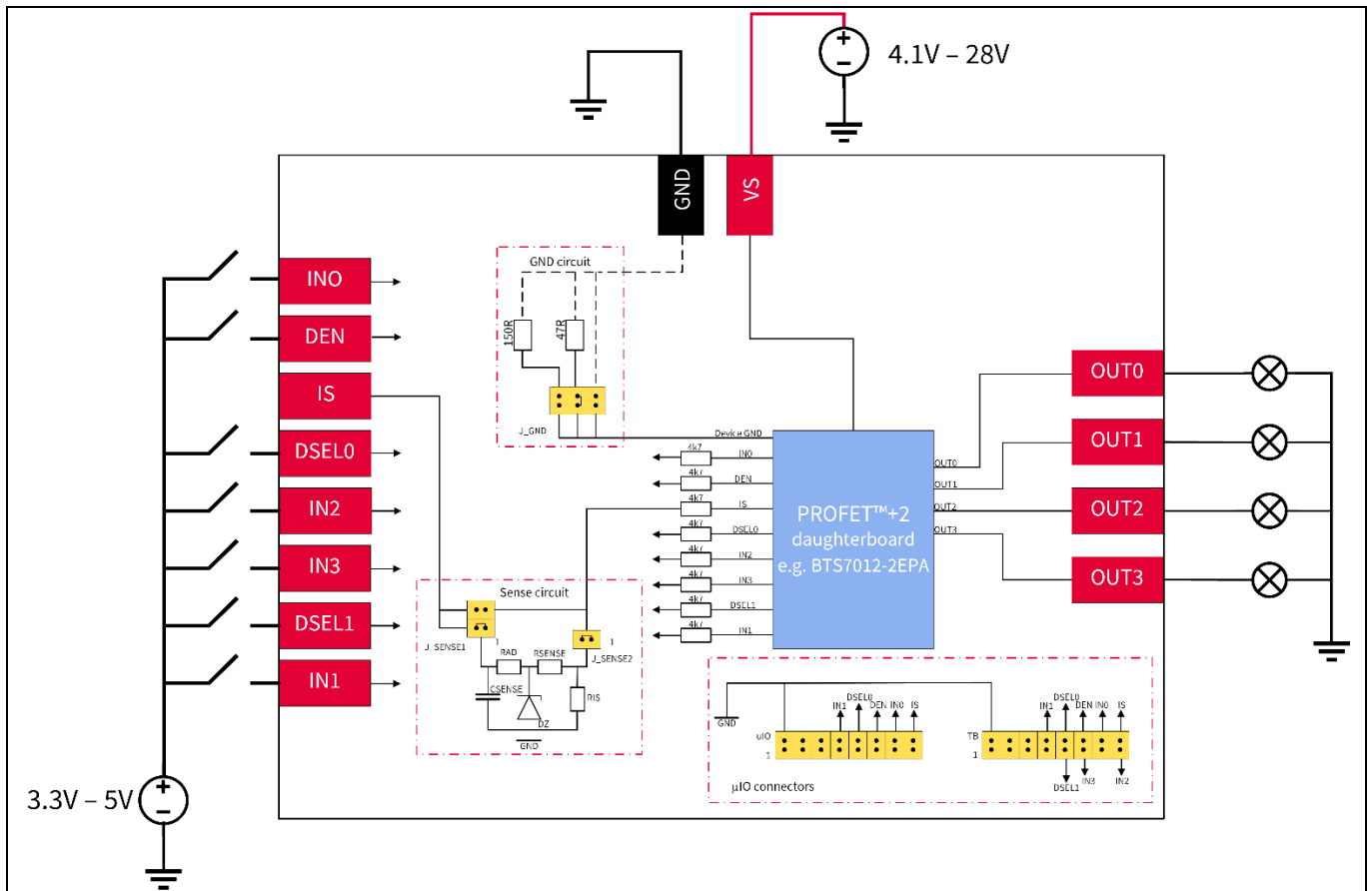


Figure 1 Application diagram

How to run the PROFET™ +2 12V demoboard

Connect

Plug the PROFET™ +2 12V daughterboard onto the motherboard and follow the steps described below:

1. Plug the PROFET™ +2 12V DB onto the MB
2. Connect a power supply to VS (4.1 V – 28 V) and GND
3. Connect digital supply (LOW: 0 V, HIGH: $3.3\text{ V} \leq V_{IN} \leq 5\text{ V}$) to:
 - a. DEN and IN0 (1-channel devices)
 - b. DEN, DSEL0, IN0 and IN1 (2-channel devices)
 - c. DEN, DSEL0, DSEL1, IN0, IN1, IN2 and IN3 (4-channel devices)
4. Connect loads ($I_{L(NOM)}$) according to device datasheet to:
 - a. OUT0 (1-channel devices)
 - b. OUT0 and OUT2 (2-channel devices)
 - c. OUT0, OUT1, OUT2 and OUT3 (4-channel devices)

Check

5. Set the power supply current limit higher than the expected load current on the demo board
6. Make sure that there are no short circuit conditions between the OUTx pins and GND

Table 1 J_RGND jumper positions

#	Description
1	The PROFET™ +2 12V DB ground is connected to the MB module ground via 150 Ω resistor
2	The PROFET™ +2 12V DB ground is connected to the MB module ground via 47 Ω resistor
3	The PROFET™ +2 12V DB ground is connected to the MB module ground via 0 Ω resistor

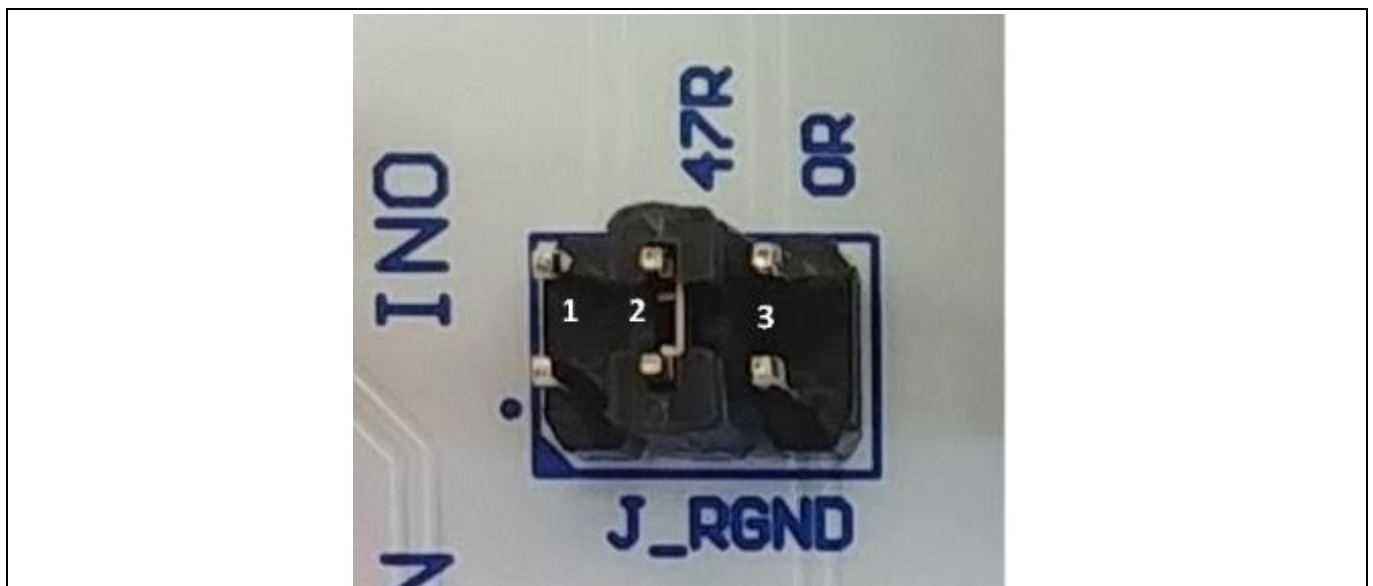


Figure 2 Jumper setup of J_RGND

Table 2 J_SENSE jumper positions

#	Description
1	It connects the IS pin of the device directly to the banana connector of the MB and disables the on-board filter of the IS
2	It connects the IS pin of the device after the on-board filter to the banana connector of the MB
3	It connects the IS pin of the device to the 1.2 kΩ sense resistor R_{IS} and to the μ IO connector



Figure 3 Jumper setup of J_SENSE

Activate

7. Switch ON the power supply and the digital supply
8. For further details consult the datasheet

Table 3 DEN and DSELx pin to IS pin truth table (for 4-channel)

DEN	DSELO	DSEL1	IS pin
Low	Not relevant	Not relevant	Z
High	Low	Low	Sense output 0
High	High	Low	Sense output 1
High	Low	High	Sense output 2
High	High	High	Sense output 3

Revision history

Document version	Date of release	Description of changes
1.00	2021-04-22	Quickstart guide PROFET™ +2 12V demoboard available

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