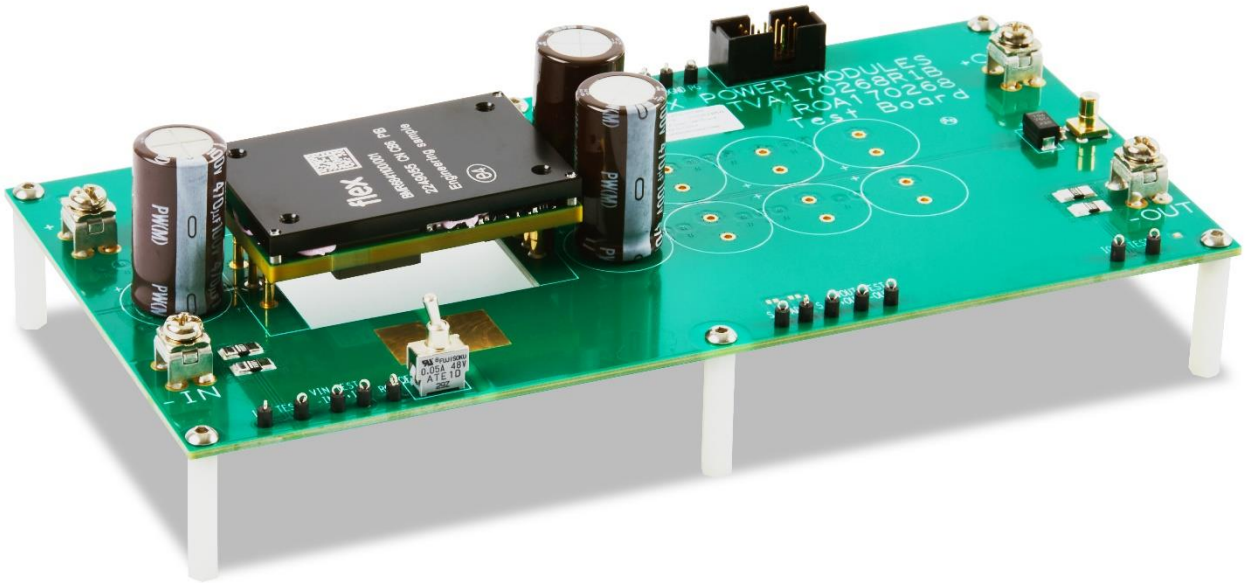
flex Power Modules

Evaluation board for digital & analog quarter brick

USER GUIDE ROA170268



Contents

1 Introduction

This User Guide provides a brief introduction and instruction on how to use the evaluation board ROA170268 together with BMR684 in R1A revision or later. We have chosen the BMR684 as a sample in this User Guide.

1.1 How to contact Flex

For general questions or interest in our products, please visit our website or contact your local sales representative.

Flexpowermodules.com

1.2 Prerequisites

In order to operate the evaluation board, the following is needed:

- Power supply 36-75 V
- BMR684 module (the board is not pre-populated)

2 Evaluation board ROA 170268

In Figure 1a and 1b the top and bottom sides of the ROA 170268 are shown.

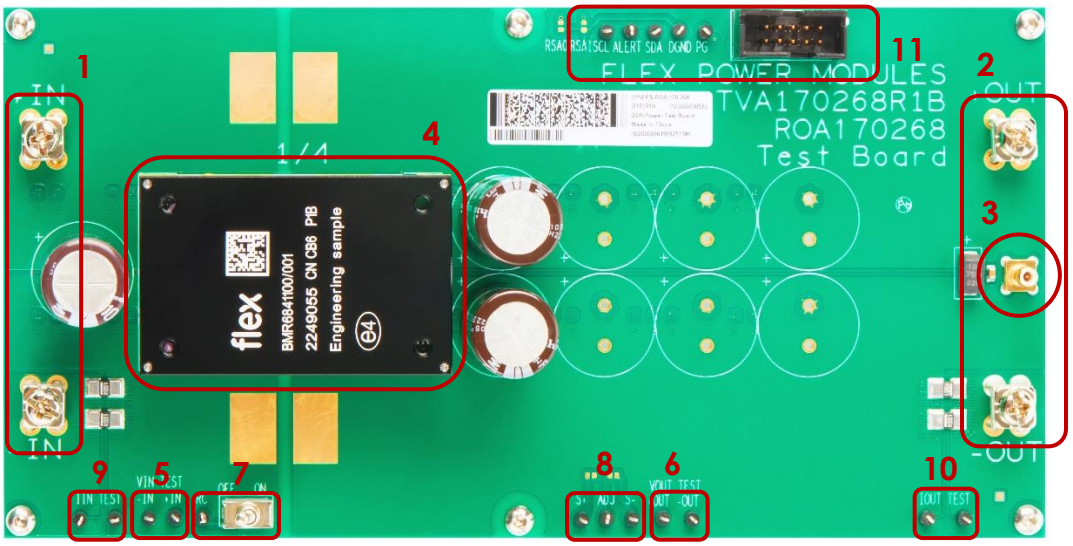


Figure 1a: ROA 170268 (top side)

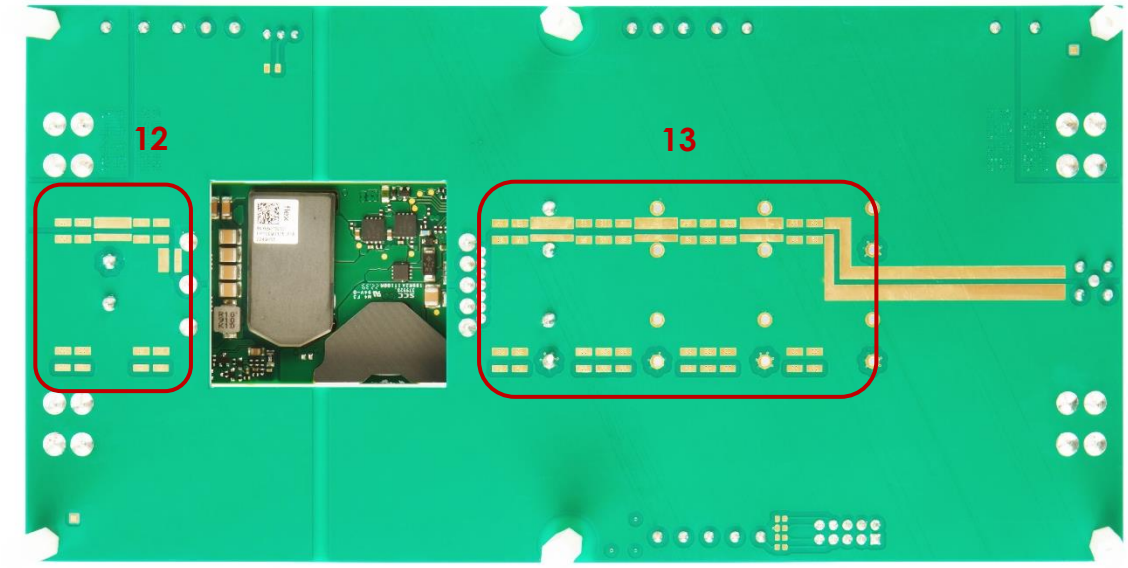


Figure 1b: ROA 170268 (bottom side)

Position description (top side)

1	Input voltage connectors
2	Output voltage connectors
3	SMB Oscilloscope connectors for Vout
4	BMR684 module
5	Testing points for Vin
6	Testing points for Vout
7	RC switch and testing point
8	Testing points for Sense+, V_{adj} and Sense-
9	Testing points for input current
10	Testing points for output current
11	PMBus connector and testing points

Position description (bottom side)

12	Space for additional input capacitors
13	Space for additional output capacitors

3 Power-up and Power-down Instructions

3.1 Power-up instruction

- Apply input power supply through the input connectors (position 1).
- Apply Electrical loading through the output connectors (position 2).
- Make sure the RC switch (position 7) is in the OFF position
- Turn on the input power supply (Vin = 36-75V).
- Set the RC switch to the ON position.

3.2 Power-down instruction

- Set RC switch (position 7) to the OFF position
- Turn off the input power supply (Vin = 36-75V).

4 Test Points

4.1 VIN/VOUT test points

The input voltage should be measured at test points +IN/-IN (position 5) which are connected directly to the VIN/GND pins of the attached module on the Test board.

The output voltage can be measured at test points +OUT/-OUT (position 6) which are directly connected to the VOUT/GND pins of the attached module on the Test board.

4.2 RC test point

The RC test point (position 7) can be used to measure the RC signal of the attached module.

4.3 Sense+/Vadj/Sense- test points

Sense+/ Sense- test points (position 8) are for load regulation and line regulation testing.

The Vadj test point (position 8) is for output voltage adjust. Refer to the product's Technical Specification for more details.

4.4 Output ripple and noise test point

The output ripple & noise test point (position 3) can be used to measure the output ripple and noise of the attached module.

4.5 Iin/Iout test points

The Iin/Iout test point (position 9 and position 10) can be used to measure the input/output current of the attached module.

4.6 PMBus test points

The PMBus test point (position 11) can be used to measure the PMBus signals of the attached module.

5 Additional input and output capacitance

If additional output capacitance is desired, the possibility exists to mount extra electrolytic and/or ceramic capacitors. The space for additional input capacitors is position 12, and the space for additional output capacitors is position 13.

6 PMBus connector

The PMBus connector (position 9) can be connected directly to a USB Interface Adapter such as FAB8020785. Using the adapter, it's possible to realize PMBus communication, as well as download a program to the controller.
Figure 2 shows the PMBus connector pin definition:

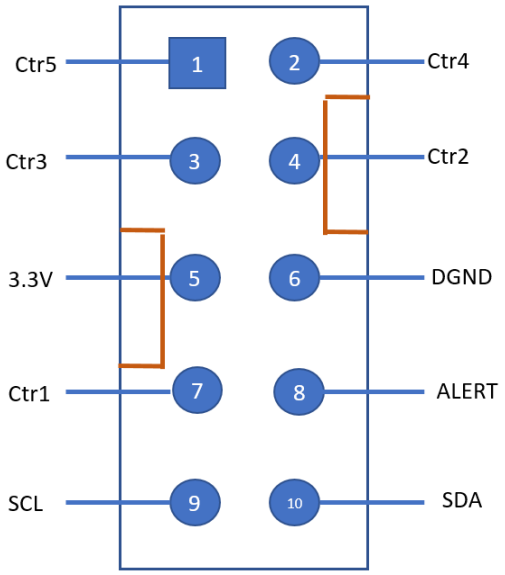


Figure 2: PMBus connector pin definition

7 Contact us

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