Evaluation board for digital & analog half brick IBC

USER GUIDE for BMR685, PKJ4000

ROA 1286012

Contents

1 Introduction

This User Guide provides a brief introduction and instruction on how to use the evaluation board ROA 1286012 together with BMR685 or PKJ4000 in R1A revision or later. We have chosen the BMR685 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
- BMR685 or PKJ4000 module (the board is not pre-populated)

2   Evaluation board ROA 1286012

In Figure 1a and 1b the top and bottom sides of the ROA 1286012 are shown.
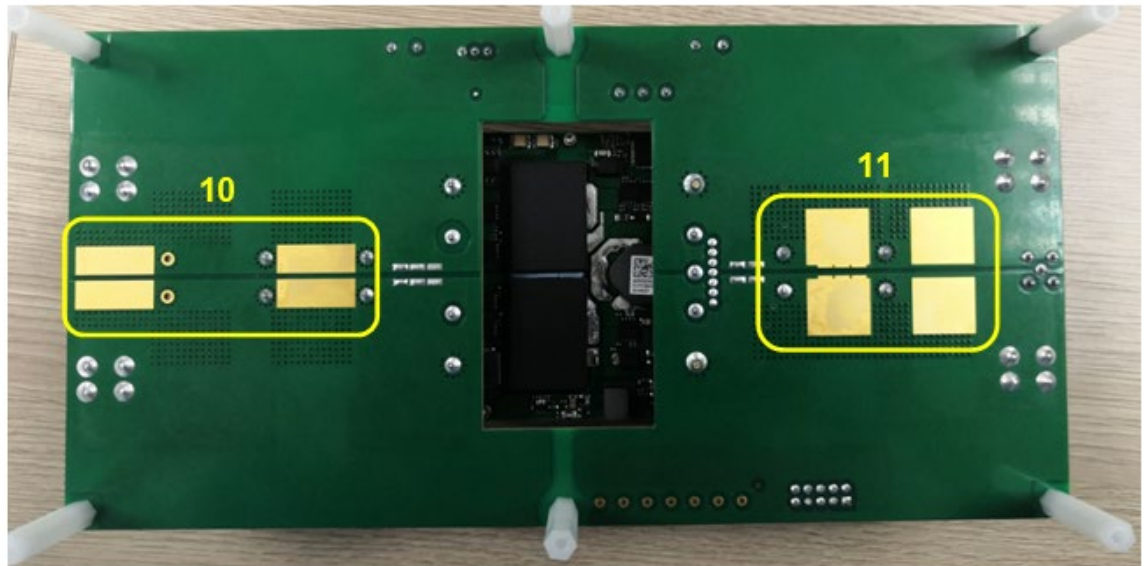

Figure 1a: ROA 1286012 (top side)

Figure 1b: ROA 1286012 (bottom side)

Position description (top side)

1	Input voltage connectors.
2	Output voltage connectors.
3	SMB Oscilloscope connectors for Vin and Vout
4	BMR685 or PKJ4000 module
5	Testing points for Vin
6	Testing points for Vout
7	ENABLE switch
8	Testing points for Vsense+, Vtrim and Vsense-
9	Connector for the PMBus-to-USB adaptor

Position description (bottom side)

10	Space for additional input capacitors
11	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 Enable switch (position 7) is in the OFF position

- Turn on the input power supply (Vin = 36-75V).

- Set the Enable switch to the ON position.

3.2 Power-down instruction

- Set Enable switch 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 Vsense+/Vtrim/Vsense- test points

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

The Vtrim (Adj) test point (position 8) is for output voltage active adjust - apply a voltage between Vtrim (Adj) test point and Vsense- point. Refer to the product's Technical Specification for more details.

4.3 Output ripple and noise test points

The output ripple & noise test point (position 3) can be used to measure the output ripple and noise 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 10, and the space for additional output capacitors is position 11.

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.
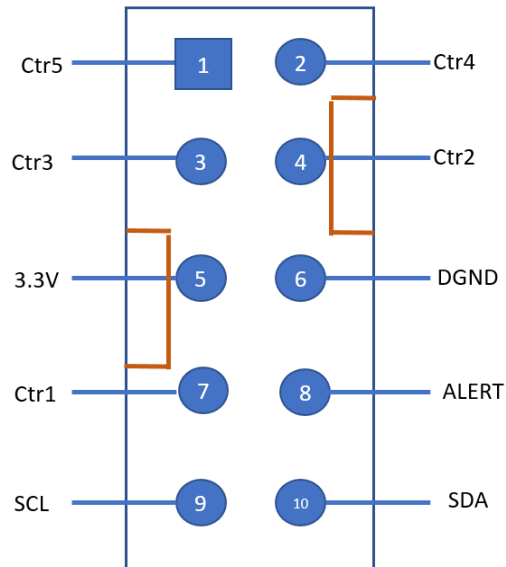
F*igure 2* shows the PMBus connector pin definition:

Figure 2: PMBus connector pin definition

7   Contact us

Headquarter

Flex Power Modules

Torshamnsgatan 28A

SE-164 40 Kista, Sweden

Email: pm.info@flex.com

Web: flexpowermodules.com

LinkedIn: linkedin.com/showcase/flex-power-modules/

Flex Power Designer: flexpowerdesigner.com

WeChat: flexpowermodules.com/wechat

YouTube: youtube.com/flexintl

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