FEBLEASE1000V2ISO-01

OB-EASE1000V2-ISO
User's Manual

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Preface

This manual describes about the Isolator for EASE1000 V2 : OB-EASE1000V2-ISO.

Refer to following documents when necessary.

- LEXIDE-Ω User's Manual
- EASE1000 V2 User's Manual

Table of Contents

1. Overview

OB-EASE1000V2-ISO is an isolator for EASE1000 V2.
Use this product when the VSS potential between EASE1000 V2 and the target system does not match, or when debugging in an environment that is easily affected by power supply noise.

Figure 1 Outline Diagram

2. Component

Table 1 Component

Name	Contents	Quantity
OB-EASE1000V2-ISO	Isolator body for EASE1000 V2	1
14-pin flat cable	Cable for connecting OB-EASE1000V2-ISO to the target system.	1

3. Specification

Table 2 Specification list

EASE1000 V2 side	Specification	
Input voltage	3.3V	Uses the 3.3V supply function of EASE1000 V2.

Target system side	Specification	
Input voltage	4.5V～5.5V	Supplied from the target system.
Output voltage	5V±10%, 250mW	Generated inside OB-EASE1000V2-ISO.
Load capacity	Max. 100pF	RST_OUT/SCK terminal, SDATA terminal.
Cable length	Max. 300mm	

Overall	Specification	
Usage environment	5 to 40°C (no condensation)	

4. Usage Description

4.1. Connecting to the target system and EASE1000 V2

(1) Make sure the power of the target system is OFF.
(2) Make sure EASE1000 V2 is not connected to the USB cable.
(3) Use the 14-pin flat cable included in the configuration to connect CN1 of OB-EASE1000V2-ISO to the connector of the target system. *1
(4) Use the 14-pin flat cable of EASE1000 V2 to connect CN2 of OB-EASE1000V2-ISO to EASE1000 V2. *1

[Note]
*1 Please make sure to align pin 1 and connect securely.

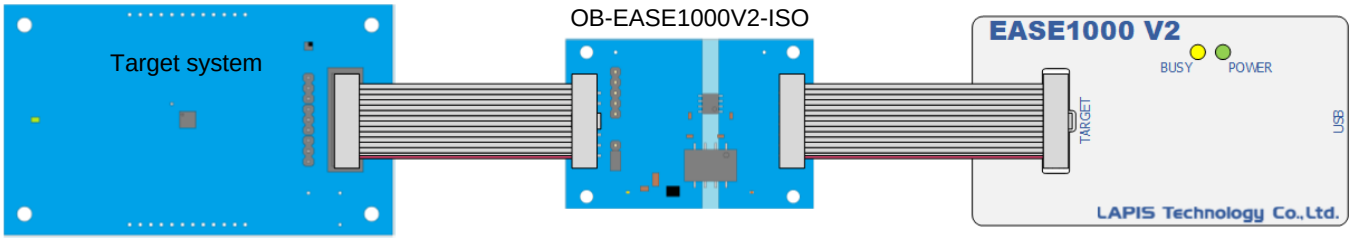

Figure 2 Connecting to the target system and EASE1000 V2

4.2. Power supply selection on the target system

Select the power supply for the target system with the jumper socket J1.

Table 3 Power supply selection on the target system

Jumper Socket Settings	Contents	Specification
C-5V side	Supplied from the DC/DC converter mounted on OB-EASE1000V2-ISO.	5V±10%, 250mW
C-USR side	Supply from the target system (CN1 pin 1 or CNE pin 5).	4.5V～5.5V

4.3. Power-on procedure

4.3.1. When supplying power to the target system from the DC/DC converter mounted in OB-EASE1000V2-ISO (Choose the C-5V side for the J1 jumper socket)

(1) Connect the host PC and EASE1000 V2 with a USB cable.
(2) Start debugging with LEXIDE-Ω on the host PC.
(3) LED1 and LED2 will light up.

4.3.2. When supplying power to the target system from the target system (Select the C-USR side for the J1 jumper socket)

(1) Connect the host PC and EASE1000 V2 with a USB cable.
(2) Supply power to the target system.
(3) LED1 will light up.
(4) Start debugging with LEXIDE-Ω on the host PC.
(5) LED2 will light up.

4.4. Power-off Procedure

4.4.1. When supplying power to the target system from the DC/DC converter mounted on OB-EASE1000V2-ISO (Choose the C-5V side for the J3 jumper socket)

(1) End debugging with LEXIDE-Ω on the host PC.
(2) LED1 and LED2 will turn off.
(3) Disconnect the USB cable connecting the host PC and EASE1000 V2.

4.4.2. When supplying power to the target system from the target system (Select the C-USR side for the J3 jumper socket)

(1) End debugging with LEXIDE-Ω on the host PC.
(2) LED2 will turn off.
(3) Shut down the power to the target system.
(4) LED1 will turn off.
(5) Disconnect the USB cable connecting the host PC and EASE1000 V2.

5. User Interface

5.1. CN1

A 14-pin connector that connects the OB-EASE1000V2-ISO and target system.

Pin No.	Name	Direction		Pin No.	Name	Direction
1	VTref	Power/Input		2	GND	power
3	VPP	N.C.*		4	GND	power
5	RST_OUT/SCK	Input/Output		6	GND	power
7	SDATA	Input/Output		8	GND	power
9	VDDL	N.C.*		10	GND	power
11	N.C.	N.C.*		12	GND	power
13	5VOUT	Power/Output		14	N.C.	N.C.*

N.C. : Not Connected

5.2. CNE

A 5-pin connector that connects the OB-EASE1000V2-ISO and target system.

Pin No.	Name	Direction
1	VTref	Power/Input
2	GND	power
3	RST_OUT/SCK	Input/Output
4	SDATA	Input/Output
5	5VOUT	Power/Output

5.3. CN2

A 14-pin connector that connects OB-EASE1000V2-ISO and EASE1000 V2.

Pin No.	Name	Direction		Pin No.	Name	Direction
1	VTref	Power/Output		2	GND	power
3	VPP	N.C.*		4	GND	power
5	RST_OUT/SCK	Input/Output		6	GND	power
7	SDATA	Input/Output		8	GND	power
9	VDDL	N.C.*		10	GND	power
11	N.C.	N.C.*		12	GND	power
13	3.3VOUT	Power/Input		14	N.C.	N.C.*

N.C. : Not Connected

6. Supported LSI

The LSIs supported by OB-EASE1000V2-ISO are as follows:

ML62Q2033/Q2035/Q2043/Q2045

7. Precaution for usage

(1) The OB-EASE1000V2-ISO is an unfinished product and intended for research and development and for expert use in the research and development facility only. The OB-EASE1000V2-ISO is not intended to be used for volume production or parts thereof.
(2) Since the content specified herein is subject to change for improvement without notice, confirm the latest content when using the board.
(3) See the other documents, the LEXIDE-Ω User's Manual and the EASE1000 V2 user's manual when using the OB-EASE1000V2-ISO.
(4) LAPIS supports replacing the board for an initial failure soon after the shipment. However LAPIS doesn't support reparing the board.
(5) The OB-EASE1000V2-ISO have signal patterns on the underside, it might work abnormally if using on conductive materials. Use it on insulating materials or having any preventable parts.

8. Revision History

Document No.	Issue Date	Page		Description
		Previous Edition	New Edition	
FEBLEASE1000V2ISO -01	August 26, 2024	–	–	First edition.