

R0E510Y16LVB00

R20UT2451EJ0100

Rev.1.00

Low voltage OCD Board for RL78/G10 Groups

Dec 20, 2012

1. Overview

R0E510Y16LVB00 is a debug board for R5F10Y16ASP, R5F10Y14ASP in RL78/G10 groups, which is enabled to effective debug of hardware and software on low voltage user system.

This product is used with E1 emulator. And a box connector of 2.45mm pitch is needed to connecting user system.

Also refer to E1/E20 Emulator Additional Document for User's Manual (Notes on Connecting RL78), when you use this product.

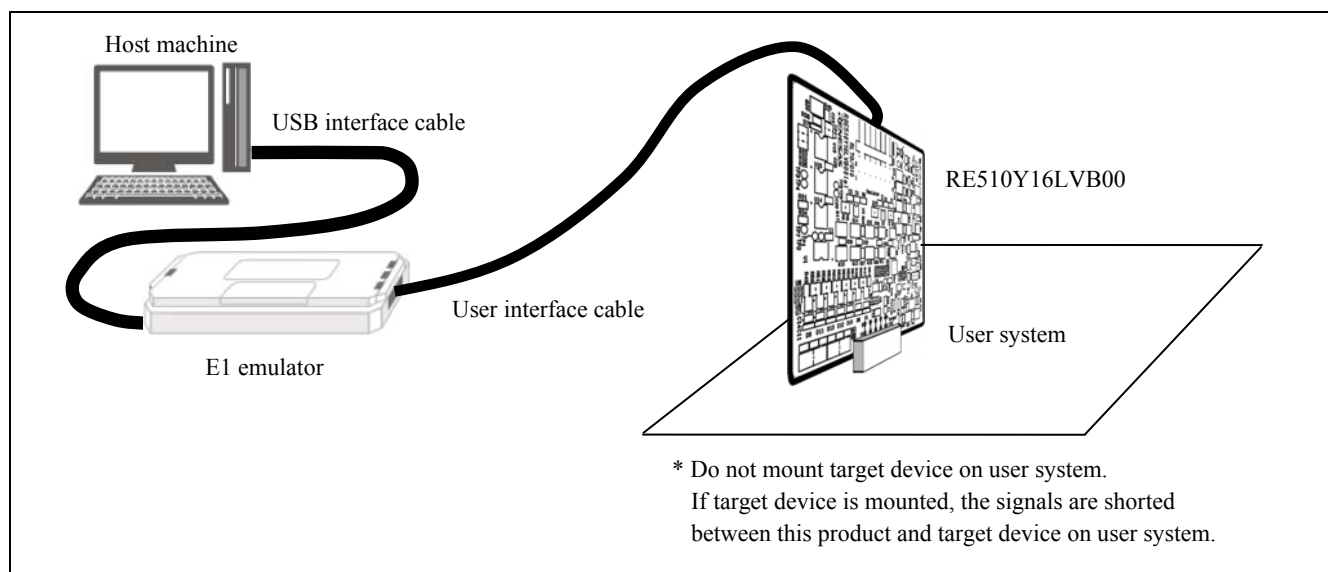


Figure 1 System Configuration

2. Specifications

Table 1 shows the functional specifications of this product.

Table 1 Specifications of this product

Item	Specification
Target MCU	R5F10Y16ASP, R5F10Y14ASP
Support Emulator	E1 emulator (E20 emulator is not supported)
Target I/F	8510-4500 : 10-pin type connector, Sumitomo 3M Limited
Power supply for this product	Emulator or Target system*
Operating voltage	2.0V to 5.0V
Operating temperature	5 to 35°C (No condensation)
Storage temperature	-15 to 60°C (No condensation)
Dimensions	60mm * 60mm (Does not include projection) Refer to figure2.
Weight	16g

Note* If the user system power supply is turned on before starting debugger, this product uses 150mA current from user system.

3. Dimensions of This Product

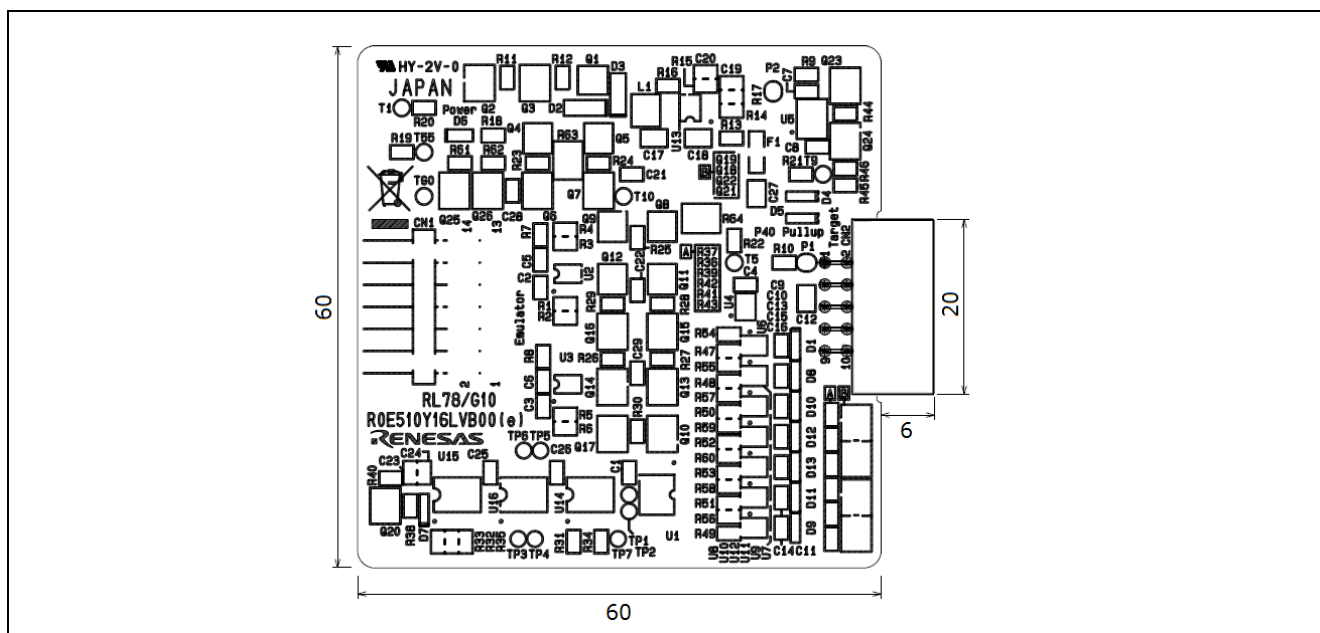


Figure 2 Dimensions of this product (R0E510YLVB00)

4. Internal Circuit

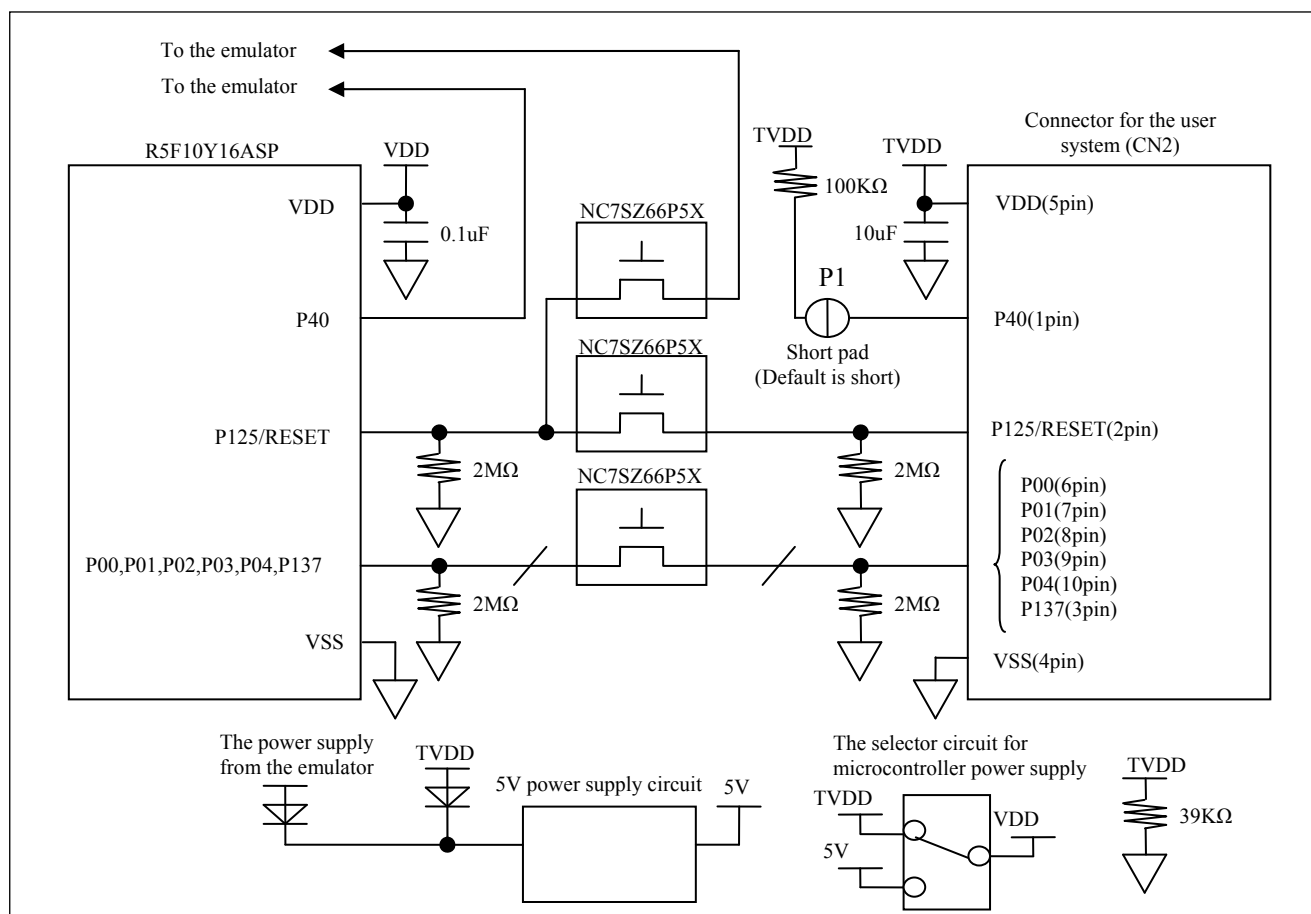


Figure 3 Internal circuit of this product (R0E510YLVB00)

5. Connecting Low voltage OCD board with user system

For connecting Low voltage OCD board with user system, need to mount a connector on user system. Refer to this chapter and user manual of devices, when you design your system.

5.1 The connector for connecting user system and mounting connector

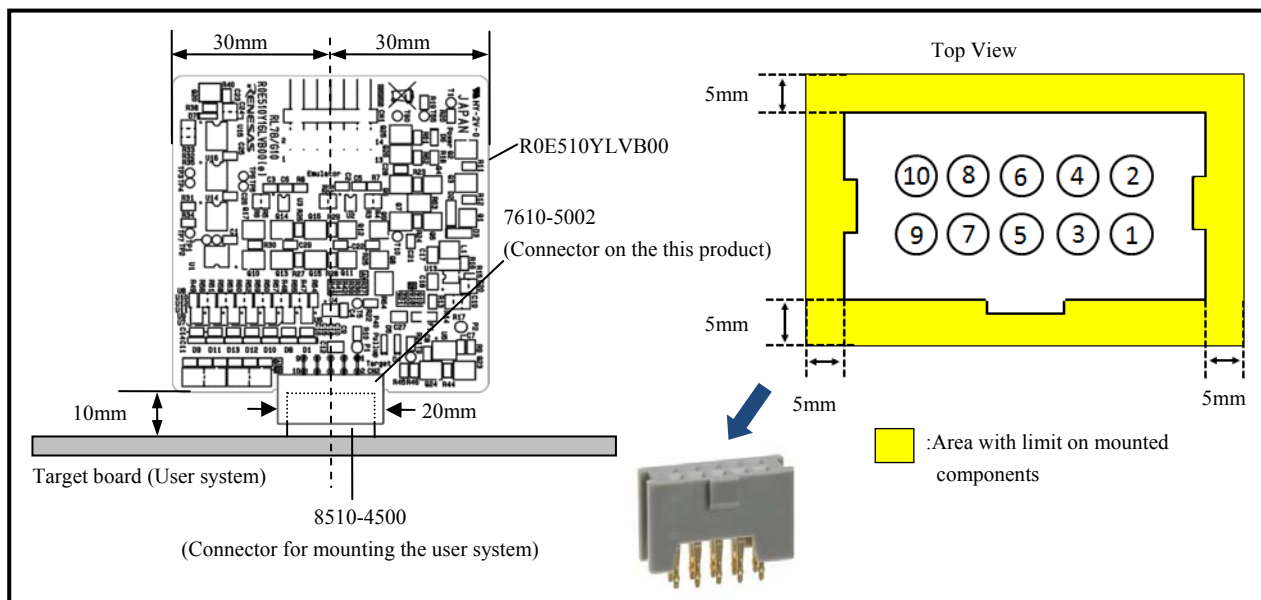


Figure 4 The connector for mounting user system and mounting connector

5.2 Pin assignments of the connector on the user system

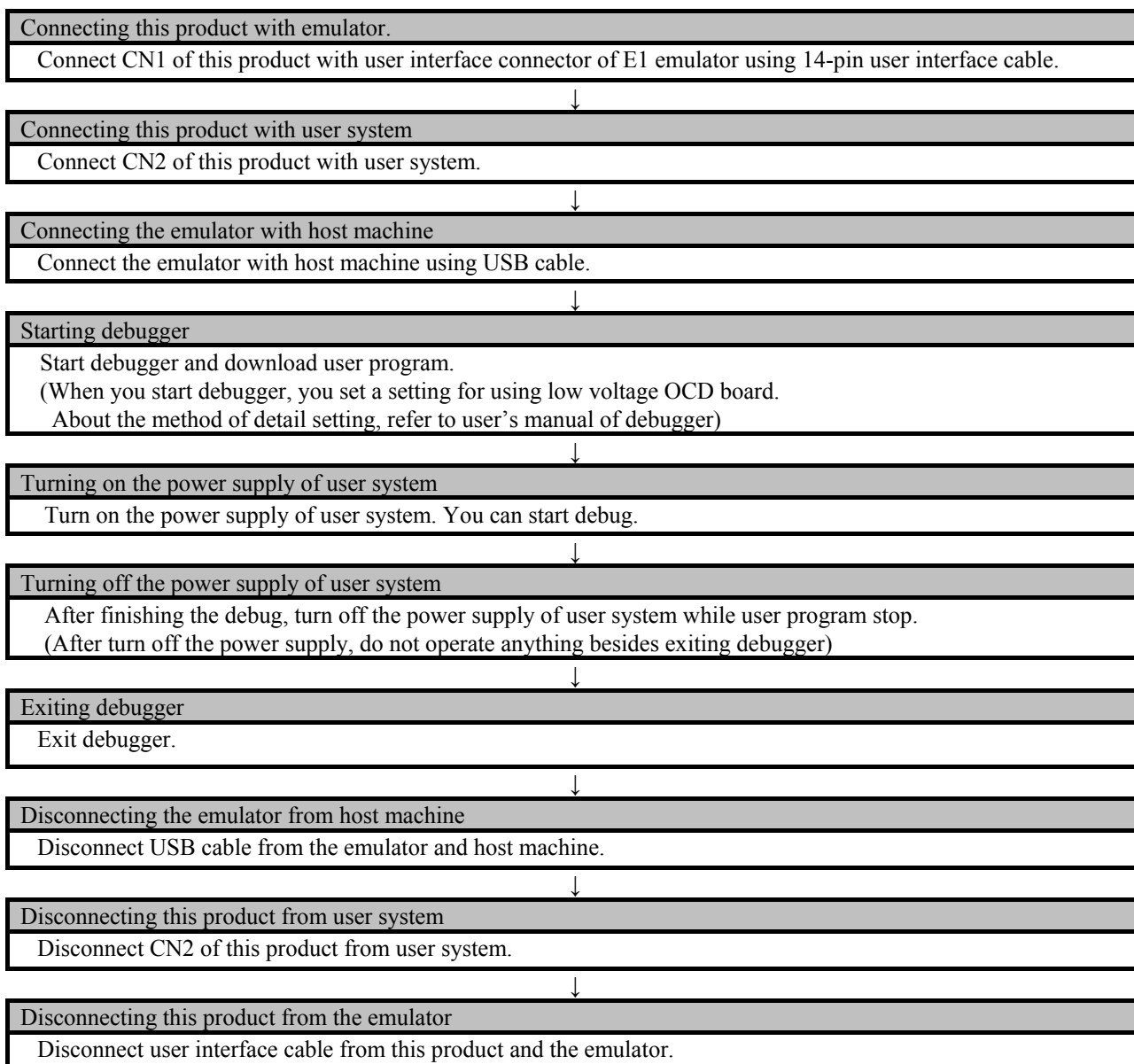
Table 2 Pin assignments of the connector

Pin No.	Pin Name	Input/Output*	Remarks
1	P40	-	P40 is connected with target power supply through 100k ohm.
2	P125/RESET	Output	-
3	P137	Output	-
4	VSS	-	-
5	VDD	-	-
6	P00	Input / Output	-
7	P01	Input / Output	-
8	P02	Input / Output	-
9	P03	Input / Output	-
10	P04	Input / Output	-

Note* As seen from this product (R0E510Y16LVB00)

6. Use procedure

Use this product (R0E510Y16LVB00) by the following procedure.



7. Notes on Usage

Read the following notes before using this product. Incorrect operation will damage this product, the user system and the user program.

Notes on Connecting the Low voltage OCD board:

- Cables must not be connected or disconnected while the user system power is on.
- Before connecting this product with the user system, check that the pin 1 locations on both sides.

Note on Rewriting the Flash Memory:

- The number of MCU's flash memory rewriting on this product is limited.
If an erasing error occurs during debugging, replace this product.

Notes on Debugging:

- P40 is not connected microcontroller for debug on this product.
It is not possible to debug of P40 port function in this product.

Note on the Flash Programming Software Products (Renesas Flash Programmer, etc.):

- Do not use the flash programming software products for this product.

Note on the RESET:

- After resetting, It occurs the break of hundreds msec for internal debugger process

Note on the data retention lower limit supply voltage:

- Minimum value of the data retention lower limit supply voltage differs from target devices.
The data retention lower limit supply voltage of this product is 1.8V(typ.) / 2.0V(max.).

Note on the A/D Converter:

- The characteristic of the A/D converter differs from target devices because there are some analog selectors and other devices between the MCU and the user system.
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Appendix Compliance Sheet

CAUTION

This is a Test- and Measurement equipment with possibility to be significantly altered by user through hardware enhancements/modifications and/or test or application software. Thus, with respect to Council Directive 2004/108/EC (Directive on compliance with the EMC protection requirements), this equipment has no autonomous function. Consequently this equipment is not marked by the CE-symbol.

EEDT-ST-005-20

CAUTION

This equipment should be handled like a CMOS semiconductor device. The user must take all precautions to avoid build-up of static electricity while working with this equipment. All test and measurement tool including the workbench must be grounded. The user/operator must be grounded using the wrist strap. The connectors and/or device pins should not be touched with bare hands.

EEDT-ST-004-10

For customers in the European Union only



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Device files and sample code download(*1)

For target boards the device files and ready-to-use sample Application(s) are available for download from the Renesas TOOLWEB, www.renesas.eu/update.

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