REJ10J1448-0100

Everywhere you imagine. RENESAS

R0P0400LE0011RL

User's Manual

PCI Extension board

User's Manual

Rev.1.00
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Renesas Technology
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(10) Connection with the apparatus of all LAN interfaces cannot be guaranteed.
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Figures:

Some figures in this user's manual may show items different from your actual system.

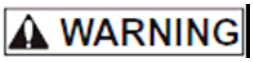
Precautions for Safety

Definitions of Signal Words

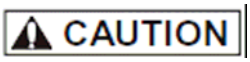
In both the General Information Manual and on the product itself, several icons are used to insure proper handling of this product and also to prevent injuries to you or other persons, or damage to your properties.
This chapter describes the precautions which should be taken in order to use this product safely and properly.
Be sure to read this chapter before using this product.

This symbol represents a warning about safety. It is used to arouse caution about a potential danger that will possibly inflict an injury on persons. To avoid a possible injury or death, please be sure to observe the safety message that follows this symbol.

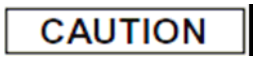
DANGER indicates an imminently dangerous situation that will cause death or heavy wound unless it is avoided. However, there are no instances of such danger for the product presented in this manual.



WARNING indicates a potentially dangerous situation that will cause death or heavy wound unless it is avoided.



CAUTION indicates a potentially dangerous situation that will cause a slight injury or a medium-degree injury unless it is avoided.



CAUTION with no safety warning symbols attached indicates a potentially dangerous situation that will cause property damage unless it is avoided.

NOTE emphasizes essential information.

In addition to the five above, the following are also used as appropriate.

△ means WARNING or CAUTION.
Example:

CAUTION AGAINST AN ELECTRIC SHOCK

⃠ means PROHIBITION.
Example:

DISASSEMBLY PROHIBITED

● means A FORCIBLE ACTION.
Example:

UNPLUG THE POWER CABLE FROM THE RECEPTACLE.

CAUTION

Warnings for AC Power Supply:

- If If the attached AC power cable does not fit the receptacle, do not alter the AC power cable and do not plug it forcibly. Failure to comply may cause electric shock and/or fire.
- Use an AC power cable which complies with the safety standard of the country.
- Do not touch the plug of the AC power cable when your hands are wet. This may cause electric shock.
- This product is connected signal ground with frame ground. If your developing product is transformless (not having isolation transformer of AC power), this may cause electric shock. Also, this may give an unrepairable damage to this product and your developing one.
- While developing, connect AC power of the product to commercial power through isolation transformer in order to avoid these dangers.
- If other equipment is connected to the same branch circuit, care should be taken not to overload the circuit.

- If you smell a strange odor, hear an unusual sound, or see smoke coming from this product, then disconnect power immediately by unplugging the AC power cable from the outlet.
- Do not use this as it is because of the danger of electric shock and/or fire. In this case, contact your local distributor.
- Before setting up this product and connecting it to other devices, turn off power or remove a power cable to prevent injury or product damage.

Warnings to Be Taken for This Product:

- Do not disassemble or modify this product. Personal injury due to electric shock may occur if this product is disassembled and modified.
- Make sure nothing falls into the cooling fan on the top panel, especially liquids, metal objects, or anything combustible.

Warning for Installation:

- Do not set this product in water or areas of high humidity. Make sure that the product does not get wet. Spilling water or some other liquid into the product may cause unrepairable damage.
- Please use this product indoors.

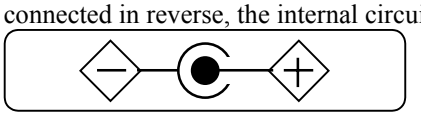
Warning for Use Environment:

- This equipment is to be used in an environment with a maximum ambient temperature of 35°C. Care should be taken that this temperature is not exceeded.

CAUTION

Note on Connecting the Power Supply:

- Do not use any power cable other than the one that is included with the product.
- At the time of connection with installation of this product or other equipments, please extract an AC/DC adaptor from a plug socket and prevent an injury and an accident.
- Pay attention to the polarities of the power supply. If its positive and negative poles are connected in reverse, the internal circuit may be broken.



Power supply injection :

- Once the power is turned off, wait for about 10 seconds before turning it back on again.

Cautions to Be Taken for Handling This Product:

- Handle the product with caution, taking care not to apply strong mechanical shock to the product by dropping or letting it fall down.
- Do not touch the communication interface connector pins or other connector pins directly with your hand. Static electricity from your body may break down the internal circuit of the product.
- Do not pull the product by the cable connecting to a board in it. Do not hold down a board while you pull the other end of it. The cable may break.

Contents

1. Outline

1.1. Package Components

This product is constituted by the following board and parts. When opened, please check whether it has gathered altogether.

Table 1.1.1 The contents list of packing

Item	Description	Quantity
R0P0400LE0011RL	PCI Extension board	1
Harness for power supply	Fro R0P0400LE0011RL	1
CD-ROM	User's manual	1

* If there is any question or doubt about the packaged product, contact your local distributor.

1.2. System Configuration

1.2.1. Names and Functions of each part of the System

Figure 1.2.1 shows the names of parts reference.

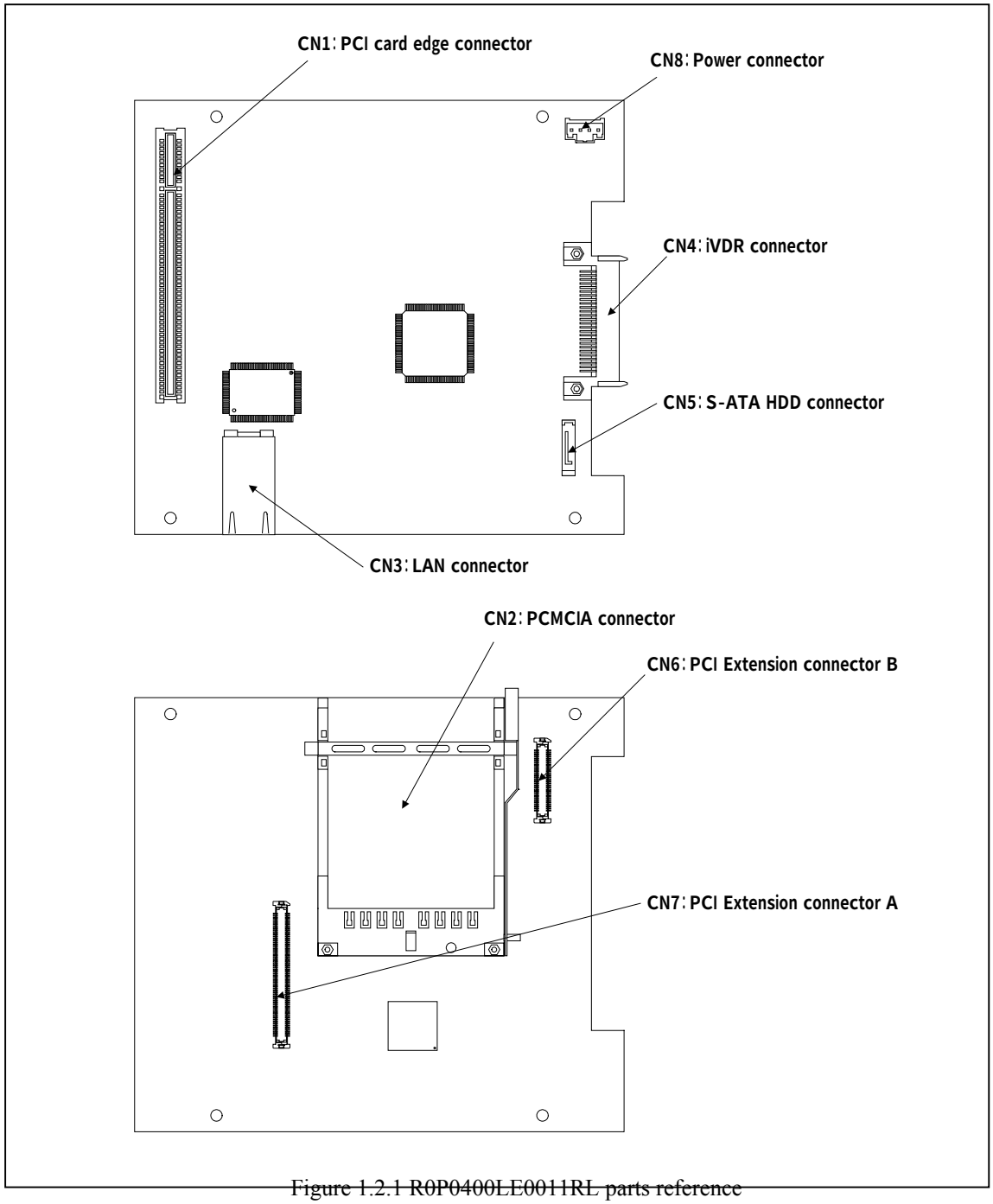


Figure 1.2.1 R0P0400LE0011RL parts reference

1.3. Specification List

Table 1.3.1 shows a list of specifications.

Table 1.3.1 R0P0400LE0011RL Specification list

Item	Description
LAN Controller	RTL8110SBL(Realtek) LANConnector:0826-1X1T-23(Bel Fuse)
CardBus Controller	PCI1520ZHK(Texas Instruments)
SATA Controller	Sil3112ACTA144(Silicon Image)
PCMCIA Interface (Attached Card Bus Card)	Header: ICM-CB68H-S112-502N(LF)(SN) (JST) Ejector:ICM-MAE-R32 (JST)
PCIEdge card Interface	52837-0609(Molex)
iDVR Interface	10033998-001(FCI Connector)
SATA Interface	67491-0010(Molex)

Item	Description
Power IN	From R0P0400LP0011RL
Size	Size:133.00mm × 150.00mm
Operating temperature	5 to 35°C (no dew)
Storage temperature	-10 to 60°C (no dew)

1.4. Attachment to CPU board

This product is used for CPU boards, such as Renesas's R0P7780LC0011RL, connecting. The example of connection with a CPU board is shown in Fig. 1.4.1. The connector for connection connects both connector of 120 pins and 60 pins.

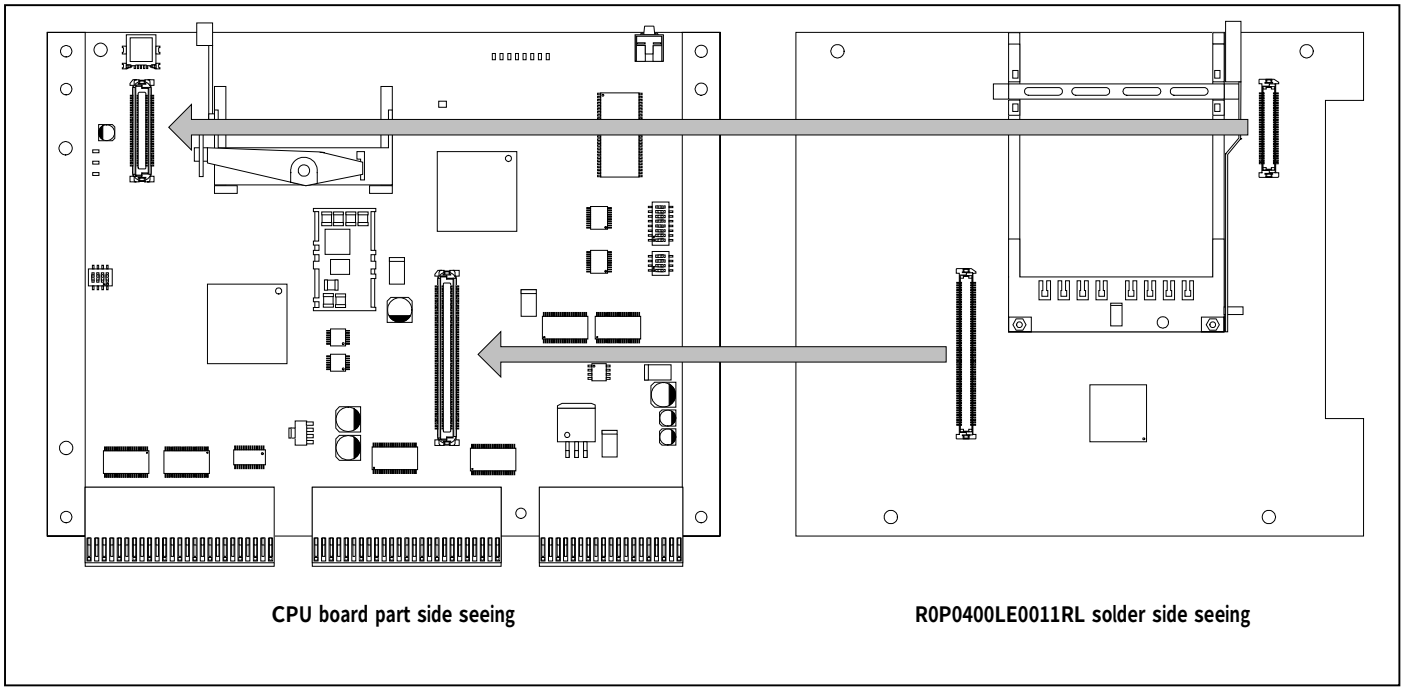


Figure 1.4.1 The example of connection with a CPU board

CAUTION

Please surely intercept the power supply of this product at the time of connection of a PCI board. Moreover, be careful of poor contact of a PCI board. The mistaken usage leads to destruction of this product.

1.5. Device Number

The device number of this product mounting devices is shown in Table 1.5.1.

Table 1.5.1 PCI Device number

Device number	Device	Funcyion	Note
H'0	RTL8110S	Giga bit Ethernet controller	
H'1	Sil3112A	SATA Controller	
H'2	PCI Edge card connector		
H'3	PCI1520ZHK	Card Bus Bridge	

CAUTION

Although the connector based on PCI 5V card specification is mounted, the specification top PCI bus signal of CPU which connects should use the card of 3.3V signal specification. If 5V signal is supplied to the connection place CPU, there is a possibility of destroying CPU. Moreover, it leads to destruction of this product.

2. Functional Specification

2.1. CPU Board Interface

2.1.1. PCI Extension Connector A

CN7 is a connector for PCI extension board connection. The general-view figure of a PCI extension interface connector is shown in Fig. 2.10.1, and signal arrangement is shown in Table 2.10.1 A use connector is the product 52760-1209 made from Molex.

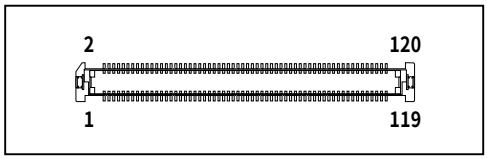


Figure 2.10.1 PCI Extension connector A appearance figure

Table 2.10.1 Signal arrangement of PCI extension connector A

Pin number	Signal name	IO	Note
1	GND		Ground
2	GND		Ground
3	PCI_CLK1	I	PCI clock
4	GND		Ground
5	NC		Not use
6	PCI_CLK2	I	PCI clock
7	PCI_CLK3	I	PCI clock
8	NC		Not use
9	GND		Ground
10	PCI_CLK4	I	PCI clock
11	GND		Ground
12	GND		Ground
13	PCI_RST#	I	Reset out
14	PCI_C/BE0#	I	Command/Byte enable 0
15	PCI_C/BE1#	I	Command/Byte enable 1
16	PCI_C/BE2#	I	Command/Byte enable 2
17	PCI_C/BE3#	I	Command/Byte enable 3
18	PCI_PAR	IO	Parity
19	GND		Ground
20	GND		Ground
21	NC		Not use
22	NC		Not use
23	GND		Ground
24	GND		Ground
25	PCI_FRAME#	I	Bus cycle
26	PCI_IRDY#	I	Initiator ready
27	PCI_TRDY#	O	Target ready
28	PCI_STOP#	O	Transaction stop
29	PCI_DEVSEL	O	Device select
30	PCI_LOCK#	I	Lock
31	PCI_PER#	IO	Parity error
32	PCI_SEER#	I	System error
33	GND		Ground
34	GND		Ground
35	PCI_REQ1#	O	Bus request 1

Pin number	Signal name	IO	Note
36	PCI_REQ2#	O	Bus request 2
37	PCI_REQ3#	O	Bus request 3
38	PCI_REQ4#	O	Bus request 4
39	PCI_GNT1#	I	Bus grant 1
40	PCI_GNT2#	I	Bus grant 2
41	PCI_GNT3#	I	Bus grant 3
42	PCI_GNT4#	I	Bus grant 4
43	GND		Ground
44	GND		Ground
45	PCI_AD0	IO	Address/Data 0
46	PCI_AD1	IO	Address/Data 1
47	PCI_AD2	IO	Address/Data 2
48	PCI_AD3	IO	Address/Data 3
49	PCI_AD4	IO	Address/Data 4
50	PCI_AD5	IO	Address/Data 5
51	PCI_AD6	IO	Address/Data 6
52	PCI_AD7	IO	Address/Data 7
53	GND		Ground
54	GND		Ground
55	PCI_AD8	IO	Address/Data 8
56	PCI_AD9	IO	Address/Data 9
57	PCI_AD10	IO	Address/Data 10
58	PCI_AD11	IO	Address/Data 11
59	PCI_AD12	IO	Address/Data 12
60	PCI_AD13	IO	Address/Data 13
61	PCI_AD14	IO	Address/Data 14
62	PCI_AD15	IO	Address/Data 15
63	GND		Ground
64	GND		Ground
65	3.3V		Power supply
66	3.3V		Power supply
67	GND		Ground
68	GND		Ground
69	PCI_AD16	IO	Address/Data 16
70	PCI_AD17	IO	Address/Data 17
71	PCI_AD18	IO	Address/Data 18
72	PCI_AD19	IO	Address/Data 19
73	PCI_AD20	IO	Address/Data 20
74	PCI_AD21	IO	Address/Data 21
75	PCI_AD22	IO	Address/Data 22
76	PCI_AD23	IO	Address/Data 23
77	GND		Ground
78	GND		Ground
79	PCI_AD24	IO	Address/Data 24
80	PCI_AD25	IO	Address/Data 25
81	PCI_AD26	IO	Address/Data 26
82	PCI_AD27	IO	Address/Data 27
83	PCI_AD28	IO	Address/Data 28
84	PCI_AD29	IO	Address/Data 29
85	PCI_AD30	IO	Address/Data 30

Pin number	Signal name	IO	Note
86	PCI_AD31	IO	Address/Data 31
87	GND		Ground
88	GND		Ground
89	IDSEL1	I	PCI_AD16
90	IDSEL2	I	PCI_AD17
91	IDSEL3	I	PCI_AD18
92	IDSEL4	I	PCI_AD19
93	NC		Not use
94	NC		Not use
95	NC		Not use
96	NC		Not use
97	GND		Ground
98	GND		Ground
99	5.0V		Power supply
100	5.0V		Power supply
101	GND		Ground
102	GND		Ground
103	NC		Not use
104	NC		Not use
105	NC		Not use
106	NC		Not use
107	NC		Not use
108	NC		Not use
109	NC		Not use
110	POW_RESET#	I	Power ON reset
111	GND		Ground
112	GND		Ground
113	GND		Ground
114	GND		Ground
115	GND		Ground
116	GND		Ground
117	GND		Ground
118	GND		Ground
119	GND		Ground
120	GND		Ground

2.1.2. PCI Extension Connector B

CN6 is a connector for PCI extension board connection. The general-view figure of a PCI extension interface connector is shown in Fig. 2.10.2, and signal arrangement is shown in Table 2.10.2. A use connector is the product 52760-0609 made from Molex.

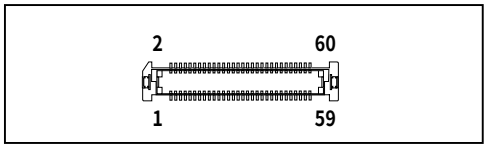


Figure 2.10.2 PCI Extension connector B appearance figure

Table 2.10.2 Signal arrangement of PCI extension connector B

Pin number	Signal name	IO	Note
1	GND		Ground
2	GND		Ground
3	PCI_INTA#	O	Interrupt
4	PCI_INTB#	O	Interrupt
5	PCI_INTC#	O	Interrupt
6	PCI_INTD#	O	Interrupt
7	GND		Ground
8	GND		Ground
9	PCI_PRST#	O	PCI Extension board detection
10	PCI_PRST_EXT#	O	PCI Edge card detection
11	GND		Ground
12	GND		Ground
13	TS_CLK		Not use
14	GND		Ground
15	GND		Ground
16	TS_VLDA		Not use
17	TS_SYNC		Not use
18	GND		Ground
19	GND		Ground
20	TS_DATA		Not use
21	TS_IOEN		Not use
22	GND		Ground
23	GND		Ground
24	TS_DIR		Not use
25	TS_ERR		Not use
26	GND		Ground
27	GND		Ground
28	GND		Ground
29	iVDR0	I	iVDR clock control
30	iVDR_POW_ON	I	iVDR power control
31	GND		Ground
32	GND		Ground
33	PW_ID0	O	iVDR PW ID0
34	PW_ID1	O	iVDR PW ID1
35	NC		Not use

Pin number	Signal name	IO	Note
36	NC		Not use
37	IF_ID0	O	iVDR IF ID0
38	IF_ID1	O	iVDR IF ID1
39	IF_ID2	O	iVDR IF ID2
40	IF_ID3	O	iVDR IF ID3
41	GND		Ground
42	GND		Ground
43	NC		Not use
44	NC		Not use
45	NC		Not use
46	NC		Not use
47	NC		Not use
48	NC		Not use
49	NC		Not use
50	NC		Not use
51	NC		Not use
52	NC		Not use
53	NC		Not use
54	NC		Not use
55	NC		Not use
56	NC		Not use
57	NC		Not use
58	NC		Not use
59	GND		Ground
60	GND		Ground

3. Extension Board Specification

3.1. Extension board size

3.1.1. PCI extension board

Please observe the following matters, in case a PCI extension board is created like this product of a user. A PCI extension board size figure is shown in Fig. 3.1.2.

■Board size is 133.00mm × 150.00mm fixation.

■Be careful of arrangement of the connector for board connection. (A figure is part side perspective drawing.)

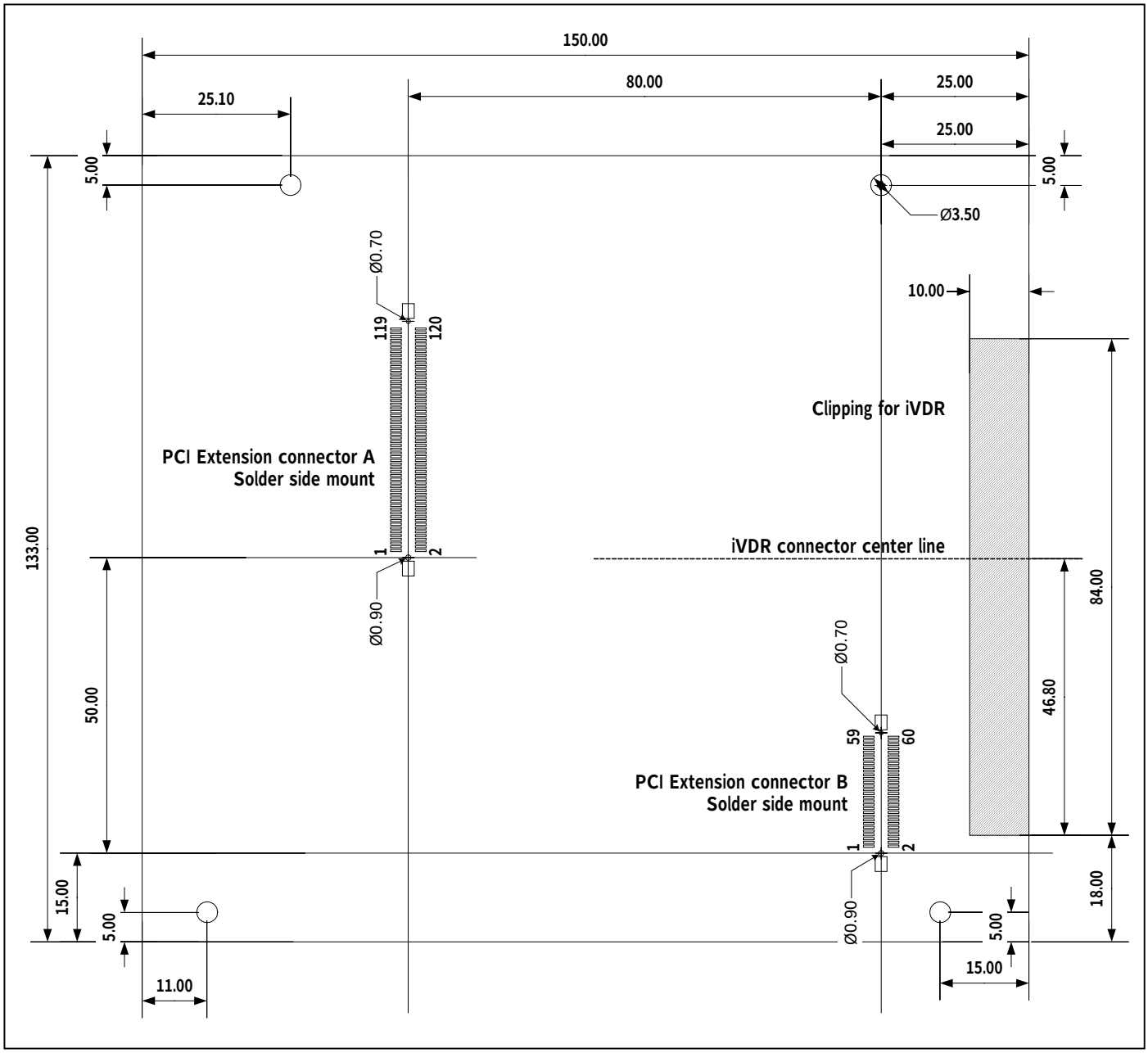


Figure 3.2.1 PCI Extension board size (A connector is part-side-seen through)

3.2. About the allowable current of PCI extension board and PCI edge card

The maximum consumed electric power of this product is about 11W. When you carry out use of a PCI extension board or the PCI card of a user, be careful of the following points.

3.2.1. The allowable current of PCI extension board

When a extension board is prepared of a user, please use the thing of the specification which does not exceed 3.3V/2A.

3.2.2. The allowable current of PCI edge card

When a PCI card is used of a user, please use the thing of the specification which does not exceed 3.3V/3A.

⚠ CAUTION
Although the connector based on PCI 5V card specification is mounted, the specification top PCI bus signal of CPU which connects should use the card of 3.3V signal specification. If 5V signal is supplied to the connection place CPU, there is a possibility of destroying CPU. Moreover, it leads to destruction of this product.

4. Appendix

4.1. R0P0400LE0011RL Circuit

PCI Extension board
User's Manual
R0P0400LE0011RL

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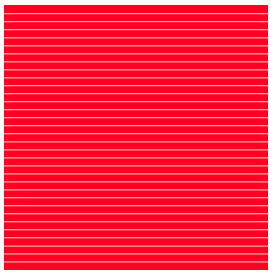

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