To our customers,

Old Company Name in Catalogs and Other Documents

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April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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User's Manual

Converter Board for USB ASSP Utility Board M3A-ZA53

Instruction Manual

For SuperH Solution Engine™

Renesas Electronics
www.renesas.com

Rev.1.01 2006.12

Notes regarding these materials

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CONTENTS

The product configuration is shown below. Please check that all the following products are present before use.

Model Name	Contents	Quantity
M3A-ZA53	<For SuperH Solution Engine™> Converter Board for USB ASSP Utility Board	1
RJJ11F0002	M3A-ZA53 Instruction Manual (Japanese)	1
REJ11F0003	M3A-ZA53 Instruction Manual (English)	1

This product is thus complied with European RoHS Directive.

The restriction of the use of certain Hazardous Substances in electrical and electronic equipment.

Inquiry about This Product

Please contact your distributor for technical support or Renesas production support for your technical inquiry via email.

Note: Please enter product number, your facsimile number, your phone number, your name, department, and organization in your inquiry email.

For Renesas production support, contact to Customer Support Center:

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1. Summary

M3A-ZA53 connects the USB ASSP Utility Board to the connector provided at the top of the SuperH Solution Engine™, and it is possible to evaluation of Renesas original USB ASSP.

It is possible to do evaluation of the USB ASSP by connecting CN1 of M3A-ZA53 to the Expansion slot of the SuperH Solution Engine™(MS7727RP02:CN1 connector) and connecting CN2 and CN3 of M3A-ZA53 to CN2 and CN3 of the USB ASSP Utility Board .

It is possible to do evaluation of the USB ASSP by combining as follows.

(1) M3A-ZA53 (Converter Board)

(2) SuperH Solution Engine™ (separately available / Manufacturer : Hitachi ULSI Ststems Co.,Ltd)

The SuperH Solution Engine™ of below is available to use.

· SuperH Solution Engine™ Light(MS7727RP02)

· Processer Target Systems (SuperH Solution Engine™)

(3) USB ASSP Utility Board (separately available)

The USB ASSP Utility Board of below is available to use.

· M66291GP Utility Board (M3A-0032)

· M66591GP Utility Board (M3A-0037G01)

· M66592FP Utility Board (M3A-0038G01)

· M66596FP Utility Board (M3A-0039)

· R8A66597FP Utility Board (M3A-0040)

[Notes]

M3A-ZA53 has a connector based on the expansion slot specification of the SuperH Solution Engine™, and it is possible to connecting M3A-ZA53 with the SuperH Solution Engine™, but it can't guaranteed operating all of the SuperH Solution Engine™ .

The power supply of USB ASSP is necessary 3.3V through expansion slot of the SuperH Solution Engine™.

M3A-ZA53 has connector pattern (CN4,CN5,CN6) for evaluation of split bus.

It is possible to do evaluation M66591 and M66592's split bus by connecting this pattern with user's FPGA board .

When evaluating of split bus, keep in mind that it is necessary to do cut pattern of the signal which CN1 side when using D16-D32, DACK0_N, DREQ0_N, EXTRG0_N, and EXTRG1_N signal.

* For SuperH Solution Engine, please contact Hitachi ULSI Systems Co., Ltd.,
Contact Center.
E-Mail: ul-cc@hitachi-ul.co.jp

*Solution Engine is trademarks of Hitachi ULSI Ststems Co.,Ltd

2. Outline

Figure 2.1 and Figure 2.2 show the M3A-ZA53 Top View.

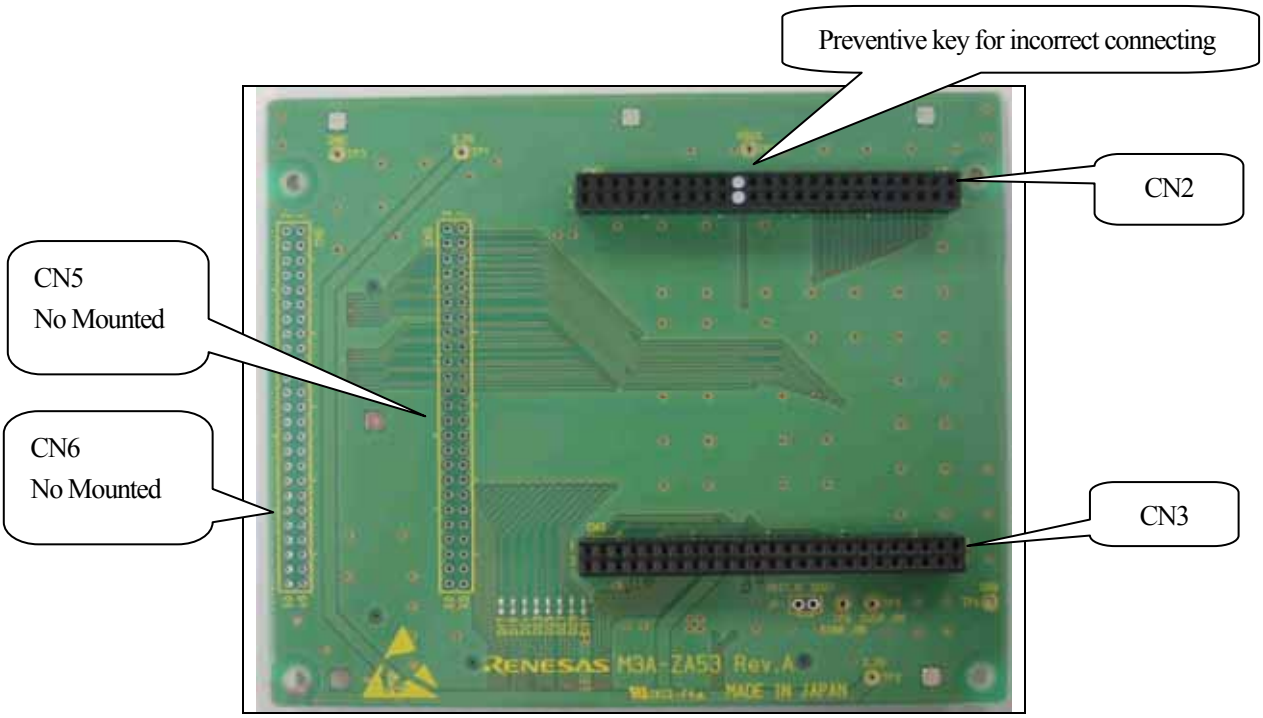


Figure 2.1. M3A-ZA53 Top View

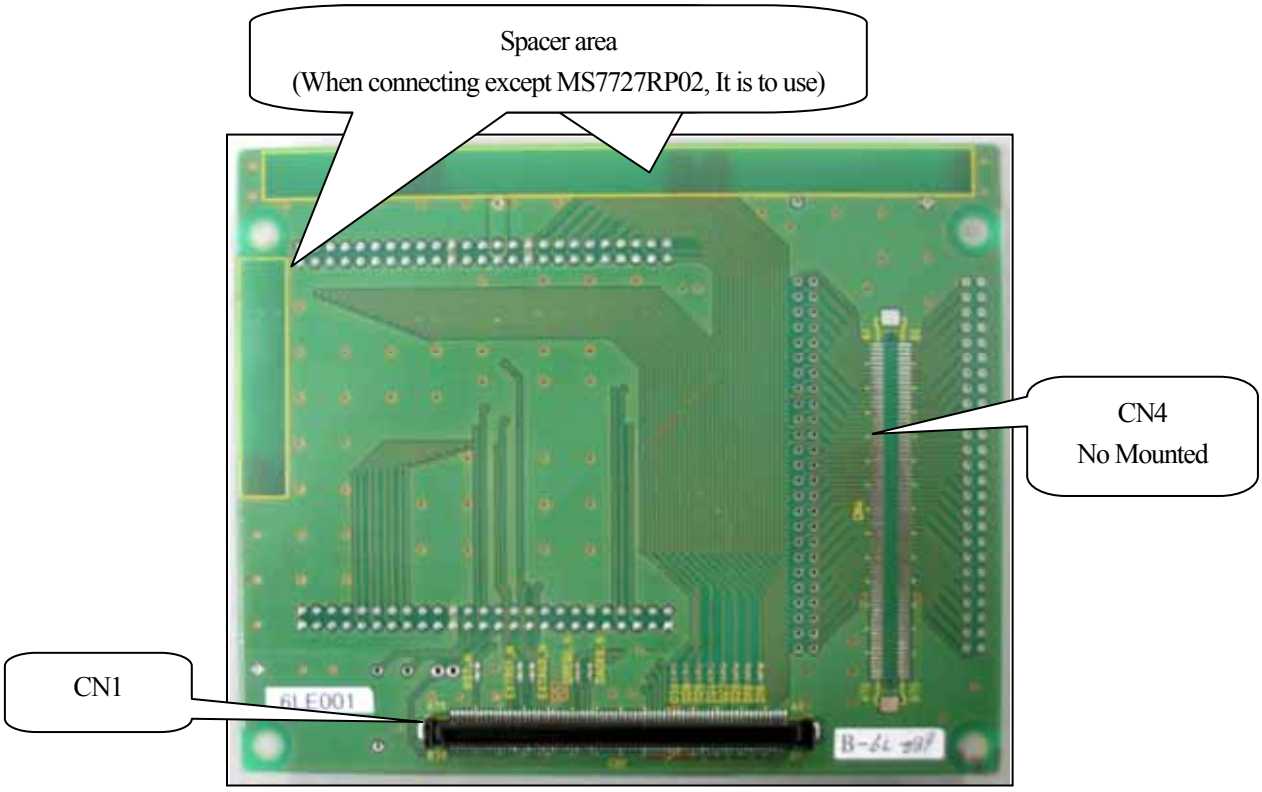


Figure 2.2. M3A-ZA53 Top View(reverse)

3. Specifications

Board Size (Length × Width)106 mm × 128 mm

Connect Interface

·Expansion slot of the SuperH Solution Engine (processor target system) : 140pins (70pins × 2)

·USB ASSP Utility Board :100pins (25pins × 2Connector × 2)

4. Jumper Setting

JP Number	Function	Factory Settings
JP1	It can detect USB ASSP interrupt of bellow through IRQ2 pin of expansion slot of the SuperH Solution Engine, when short JP1. ·M66291 : INT1/SOF interrupt ·M66592 : SOF interrupt ·M66596 : SOF interrupt ·R8A66597 : SOF interrupt	Open

5. Setup

This section illustrates how to use this board with SuperH Solution Engine MS7727PR02 or other board. Below are notes for setup.

Notes:

When connecting the USB ASSP Utility Board to the connector provided at the top of the M3A-ZA53 , connect insert cutting pin of the USB ASSP Utility Board to preventive key for correct connecting of CN2 connector on M3A-ZA53 .(Refer to figure5.1). Please don't insert M3A-0032 for reverse..

Please check correct connecting before make power supply.

If it's incorrect,USB ASSP Utility Board and the SuperH Solution Engine will break down probably.

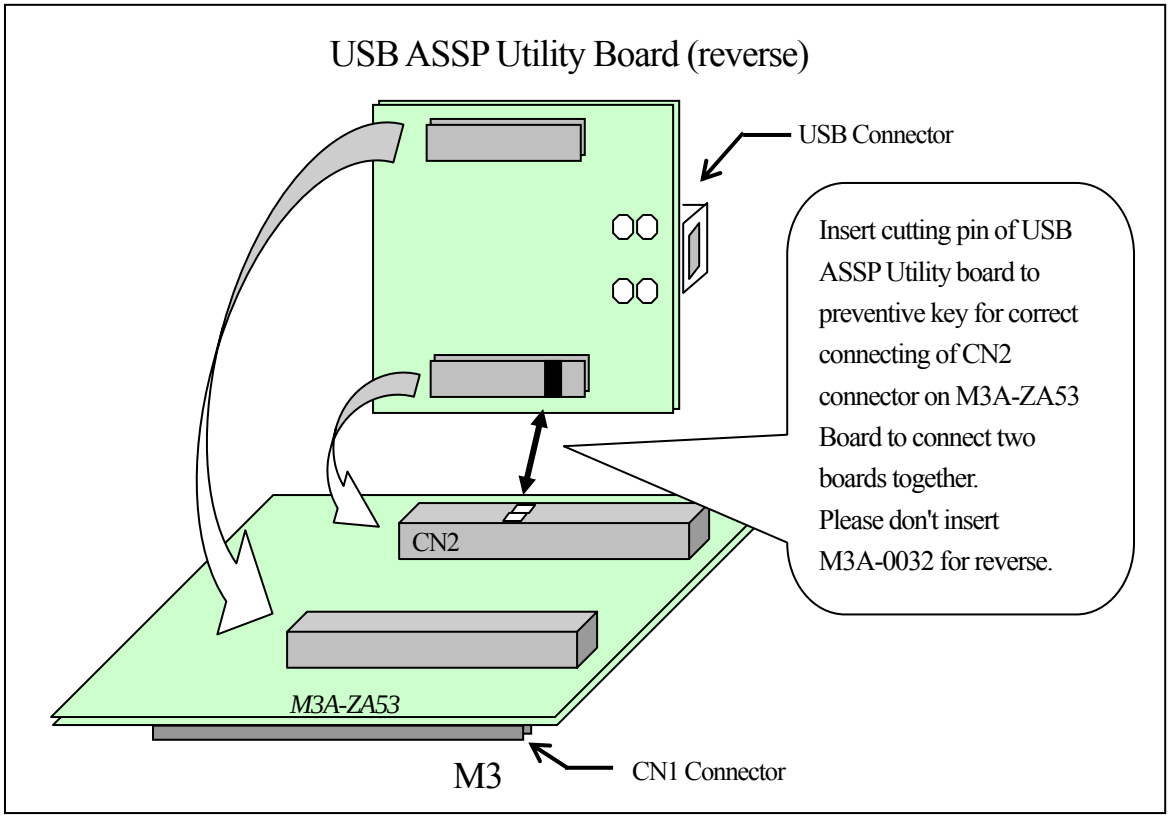


Figure 5.1 Board Configuration (Assembly figure)

5.1. Using with MS7727RP02

Figure 5.2 shows board configuration that combining the M3A-ZA53 , MS7727PR02 and USB ASSP Utility Borad..
Please join CN1 of M3A-ZA53 and CN1 of MS7727PR02, then join M3A-ZA53 and the spacer of MS7727PR02 with screw.

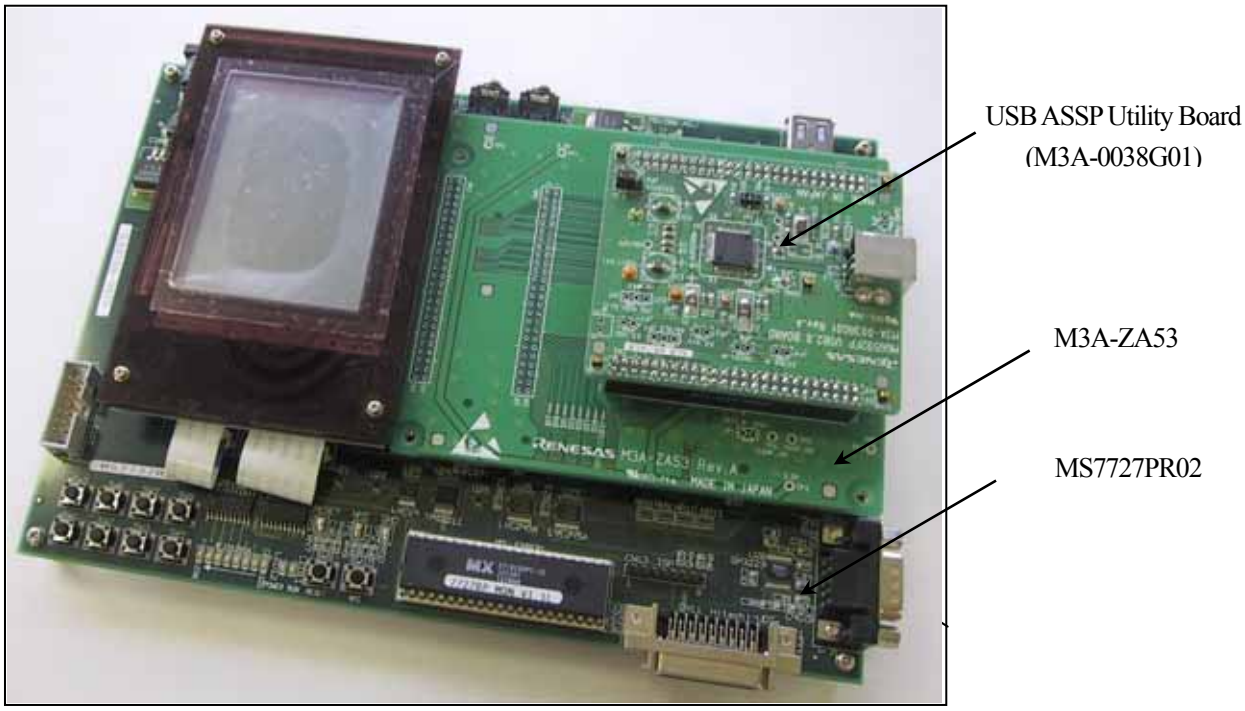


Figure 5.2 Board Configuration (Assembly image)

5.2. Using with other boards

When SuperH Solution Engine board don't have a spacer (except MS7727RP02),
Please connect expansion slot with insulator spacer that attached to the reverse side of the M3 A-ZA53. (refer to Figure. 2.2).

When connecting the M3 A-ZA53 to SuperH Solution Engine , CN1 may become poor contact if M3 A-ZA53 slants.
When take out and insert a connector, be careful not to become slanting and not to add pressure to CN1.

6. Connection

6.1. Connection Configuration

It is possible to test of USB ASSP in the list bellow by combining with the MS7727RP02, the USB ASSP Utility board and the M3A-ZA53 .

configuration Number	USB ASSP Utility Board	Power supply	CPU bus			Interrupt pins
			Address	Bus width (note 1)	DMAChannel	
1	M3A-0032 (for M66291)	3.3V	H'10000000(area 4)	16	1ch(CH0)	2 (note 2)
2	M3A-0037G01 (for M66591)	3.3V	H'10000000(area 4)	16	1ch(CH0)	1
3	M3A-0038G01 (for M66592)	3.3V	H'10000000(area 4)	16	1ch(CH0)	1
4	M3A-0039 (for M66596)	3.3V	H'10000000(area 4)	16	1ch(CH0)	1
5	M3A-0040 (for R8A66597)	3.3V	H'10000000(area 4)	16	1ch(CH0)	1

note1) connect to separate bus

note2) It is necessary to short JP1,when using two interruption pins

6.2. Configuration details

(1) configuration 1:M3A-0032 (for M66291) and SuperH Solution Engine (SH7727)

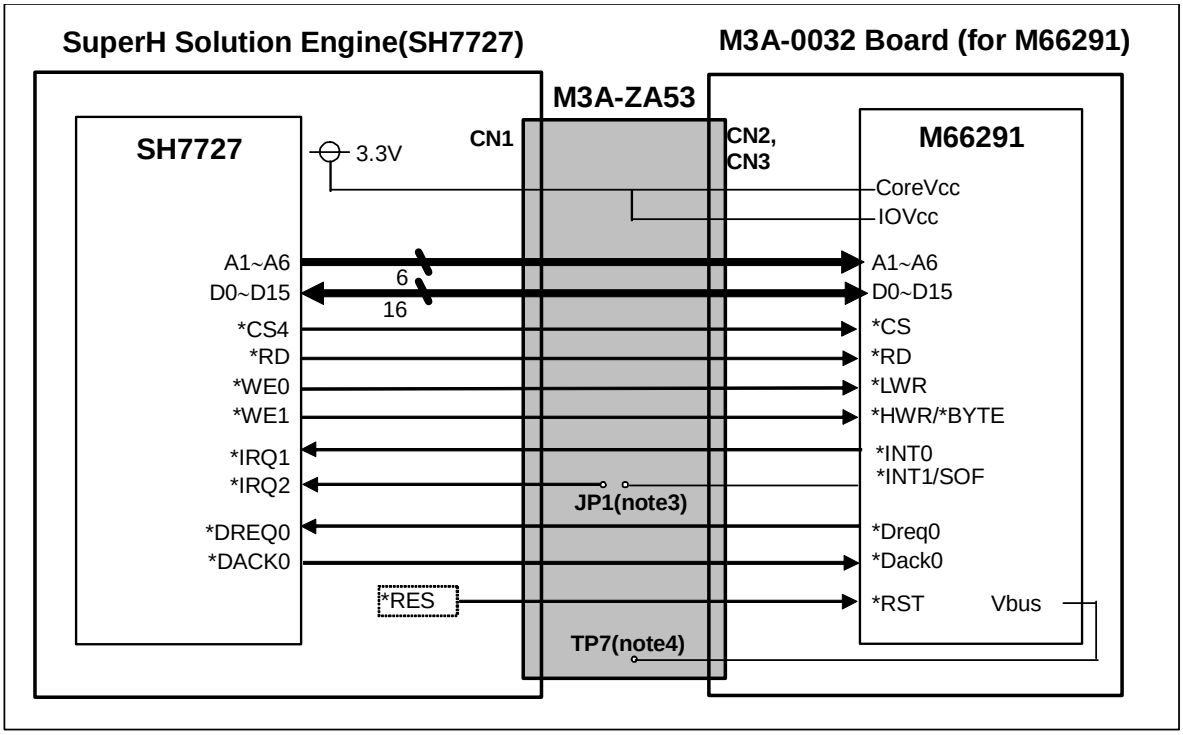


Figure 6.1 M3A-0032 (for M66291) and SuperH Solution Engine (SH7727)

notes 3) INT1/SOF interrupt of M66291 can detect through IRQ2 by short JP1.

notes 4) The VBUS level of USB bus can check by TP7 pin on the M3A-ZA53 .

(2) configuration 2::M3A-0037G01(for M66591) and SuperH Solution Engine (SH7727)

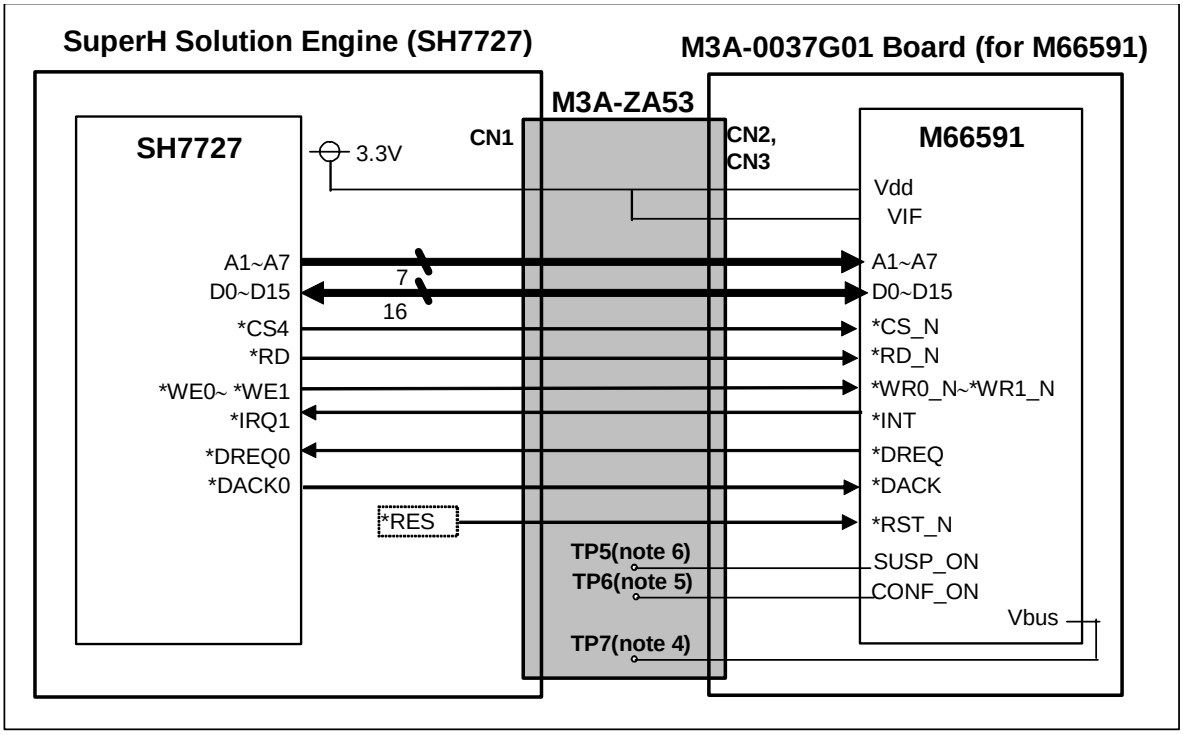


Figure 6.2 M3A-0037G01 (for M66591) and SuperH Solution Engine (SH7727)

notes 4) The VBUS level of USB bus can check by TP7 pin on the M3A-ZA53 .

notes 5)The Configured status of M66591 bus can check by TP6 pin on the M3A-ZA53 .

notes 6)The Suspend status of M66591 bus can check by TP5 pin on the M3A-ZA53 .

(3) configuration 3: M3A-0038G01 (for M66592) and SuperH Solution Engine (SH7727)

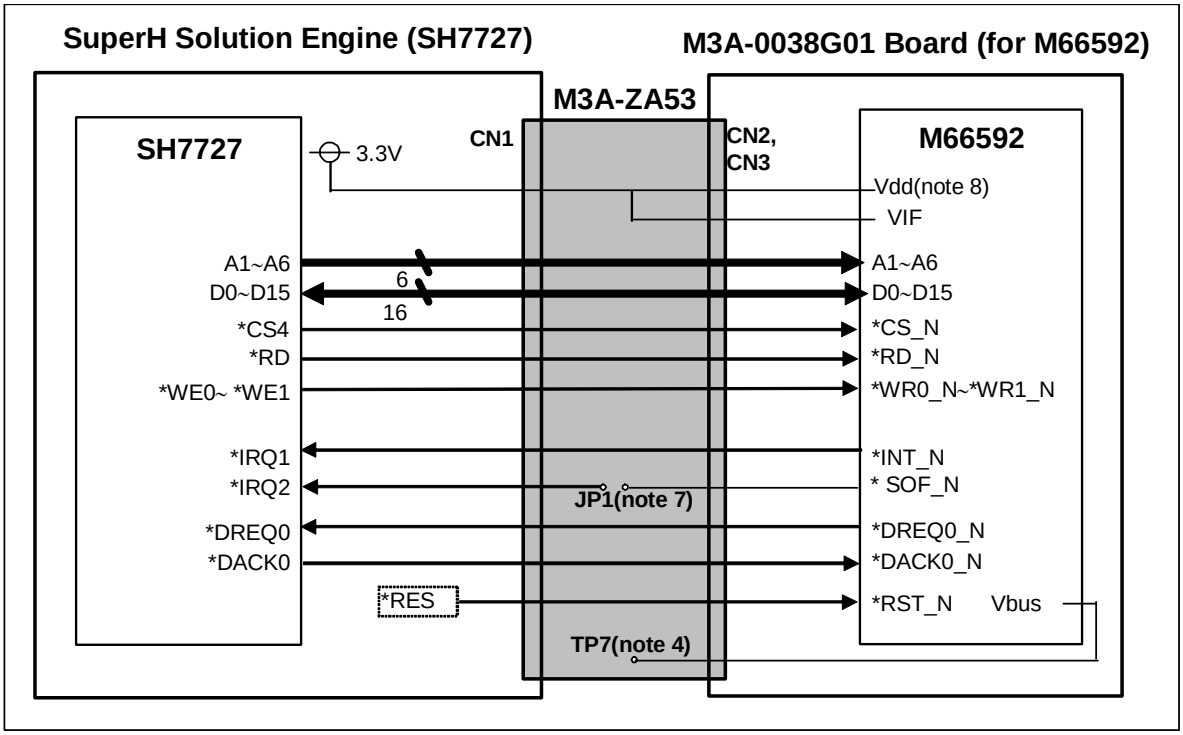


Figure 6.5 M3A-0038G01 (for M66592) and SuperH Solution Engine (SH7727)

notes 4)The VBUS level of USB bus can check by TP7 pin on the M3A-ZA53

notes 7) SOF interrupt of M66592 can detect through IRQ2 by short JP1.

notes 8) Vdd of part is 1.5V regulator makes 1.5V from 3.3V through the M3A-ZA53 19-pin and 20-pin of CN3.

(4) configuration 4: M3A-0039 (for M66596) and SuperH Solution Engine (SH7727)

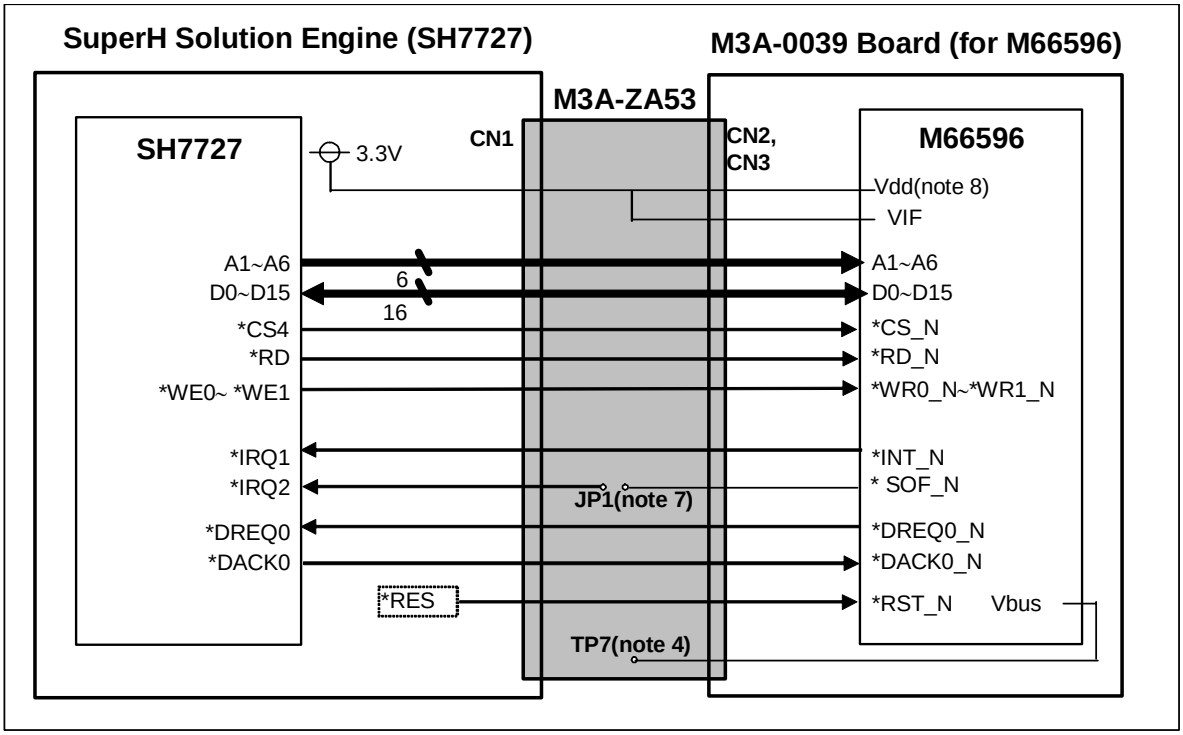


Figure 6.6 M3A-0039 (for M66596) and SuperH Solution Engine (SH7727)

notes 4)The VBUS level of USB bus can check by TP7 pin on the M3A-ZA53

notes 7) SOF interrupt of M66596 can detect through IRQ2 by short JP1.

notes 8) Vdd of part is 1.5V regulator makes 1.5V from 3.3V through the M3A-ZA53 19-pin and 20-pin of CN3.

(5) configuration 5: M3A-0040 (for R8A66597) and SuperH Solution Engine (SH7727)

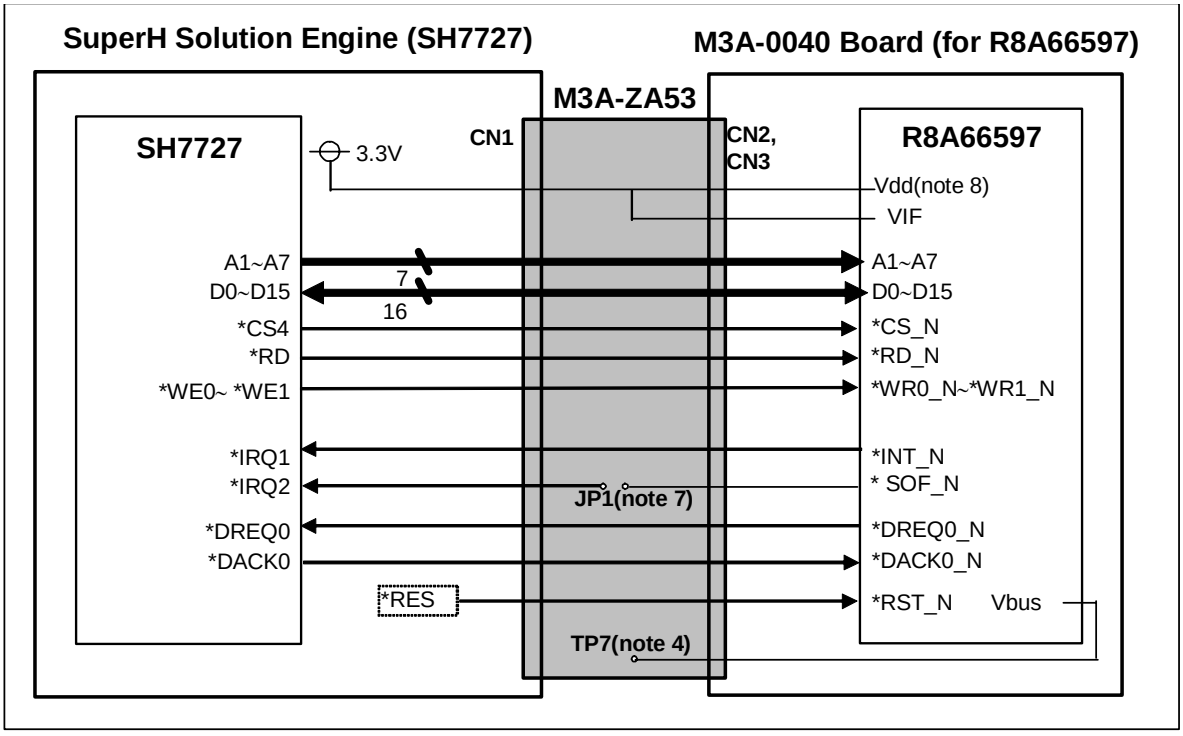


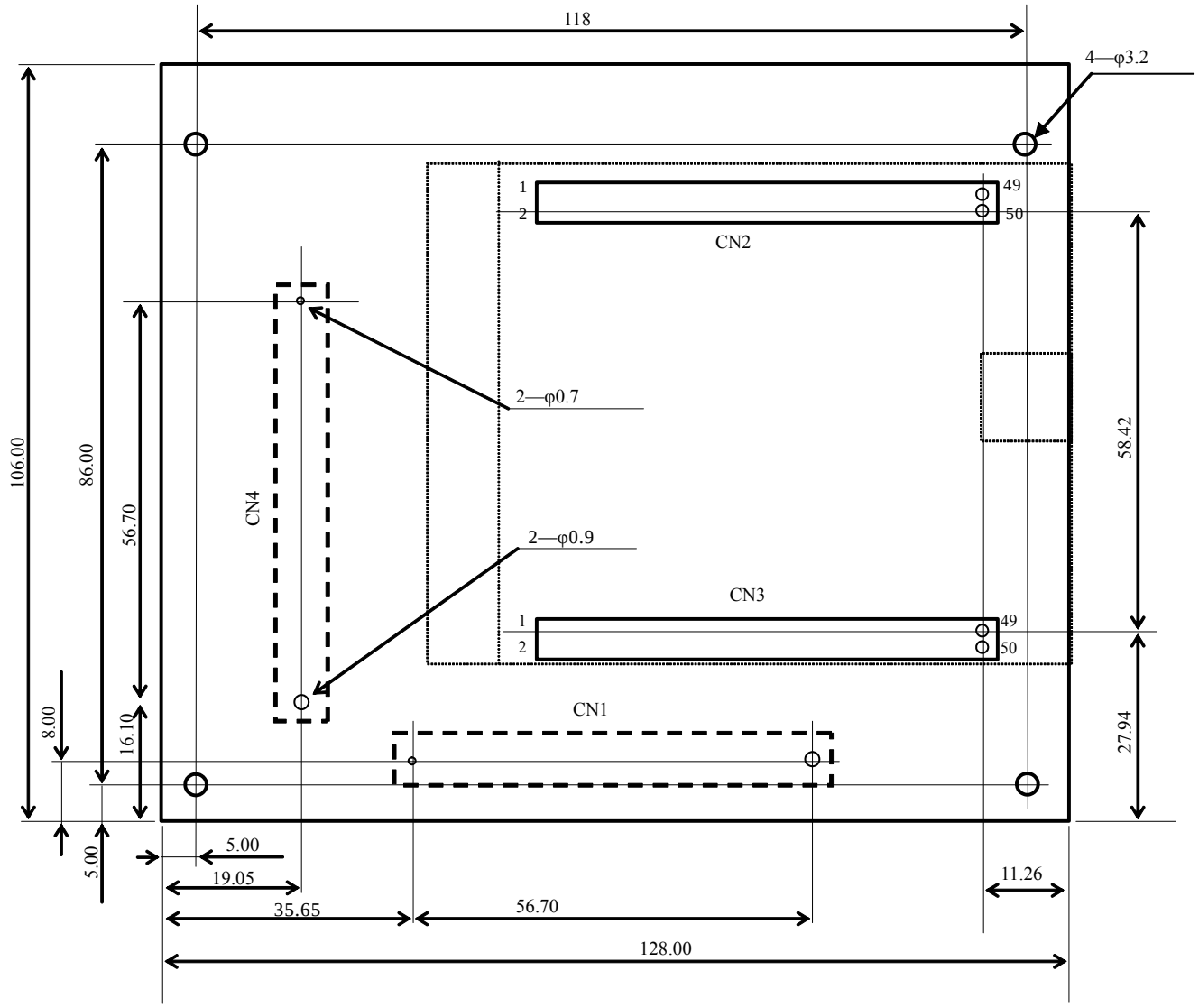
Figure 6.7 M3A-0040 (for R8A66597) and SuperH Solution Engine (SH7727)

notes 4)The VBUS level of USB bus can check by TP7 pin on the M3A-ZA53

notes 7) SOF interrupt of R8A66597 can detect through IRQ2 by short JP1.

notes 8) Vdd of part is 1.5V regulator makes 1.5V from 3.3V through the M3A-ZA53 19-pin and 20-pin of CN3.

Appendix 1: External Dimensions



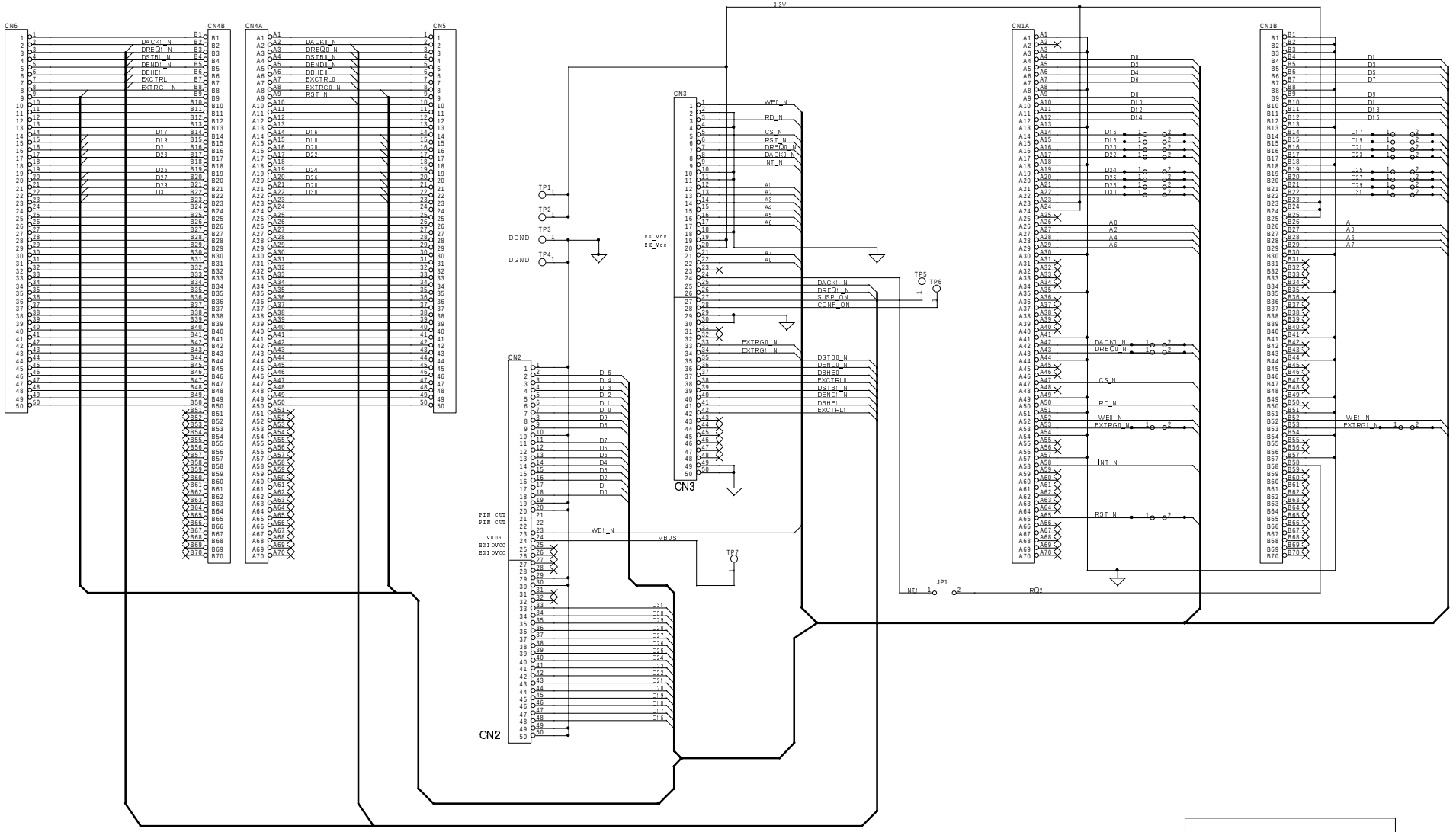
External Dimensions of M3A-ZA53 (Unit: mm) (1/1)

Appendix 2: Parts List

Renesas Solutions Corporation

No.	Component Name		Component Specification		Quantity	Notes
	Type	Symbol on Board	Product Number	Manufacture		
1	HEADER	CN1	KX15-140K4DE	JAE	1	S-side Mounted.
2	HEADER 25X2	CN2,CN3	HKP-50FD2	Honda	2	C-side Mounted.
3		GM25K	GM25K	Honda	2	preventive key for correct connecting
4	HEADER	CN4	KX15-140K4DE	JAE	0	No Mounted.
5	HEADER 25X2	CN5,6	HKP-50FD2	Honda	0	No Mounted.
6	PWB		M3A-ZA53 REV.A		1	
				Title	M3A-ZA53	
				Drawing No.	PPL-M3A-ZA53	

Appendix3 : Circuit Diagram



M3A－ZA53

(1/1)

Revision History	M3A-ZA53 Instruction Manual

Rev.	Date	Description	
		Page	Summary
1.00	May.01.04	—	First edition issued
1.01	Dec.21.06	Contens	Addition: This product is thus complied with European RoHS Directive.
		1,3,6,8	Addition: Connectable USB ASSP Utility Board · M66596FP Utility Board (M3A-0039) · R8A66597FP Utility Board (M3A-0040)
		Appendix 2	Parts List Modified : # 1,4 (Part type name is thus complied with European RoHS Directive)

<For SuperH SolutionEngine™ > Converter Board for USB ASSP Utitity Board
M3A-ZA53 Instruction Manual Dec.21. '06