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April 1st, 2010
Renesas Electronics Corporation

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

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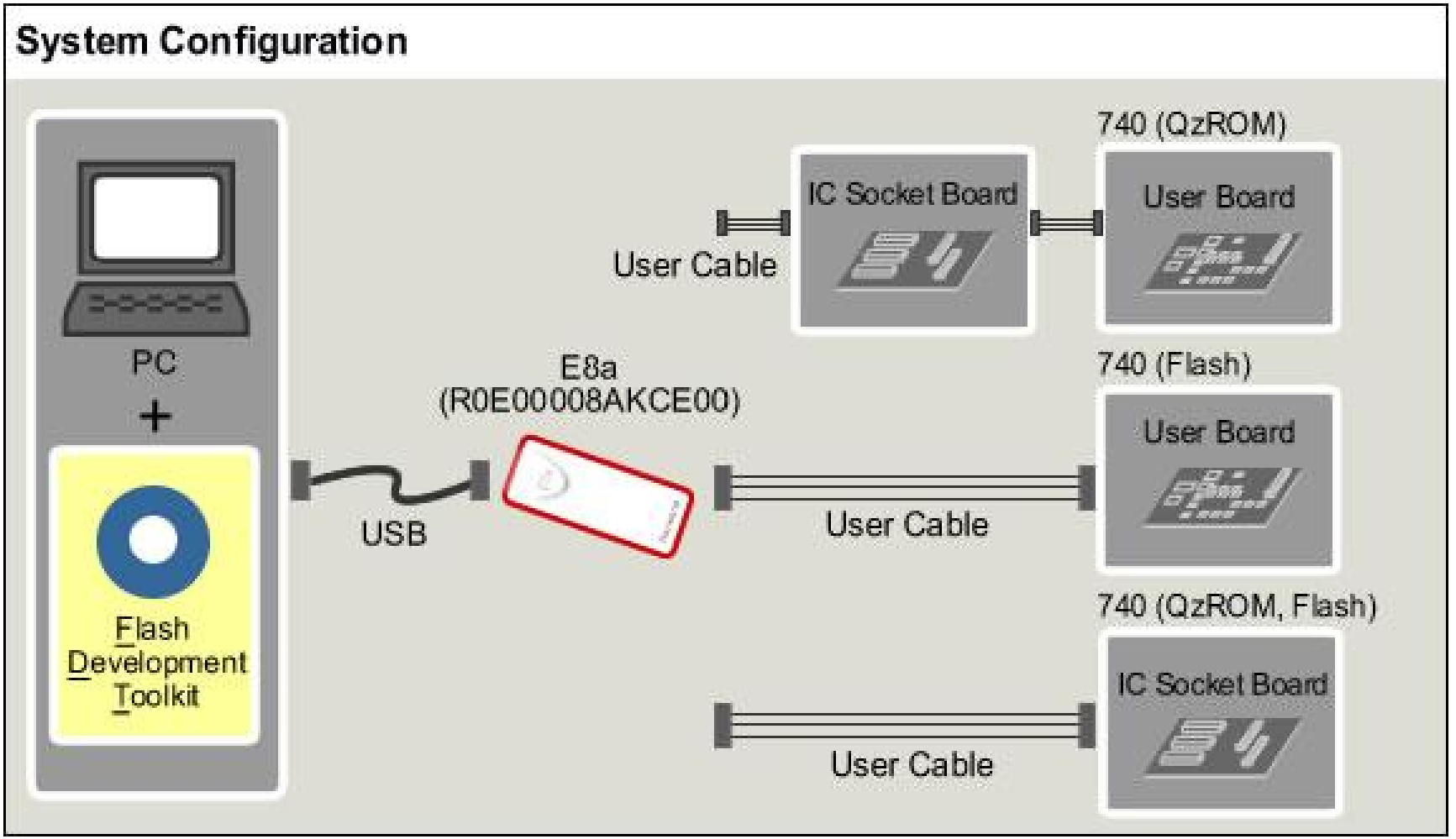
On Board Programming for QzROM / FLASH with E8a

Renesas Technology Corp.

Rev. 4.10

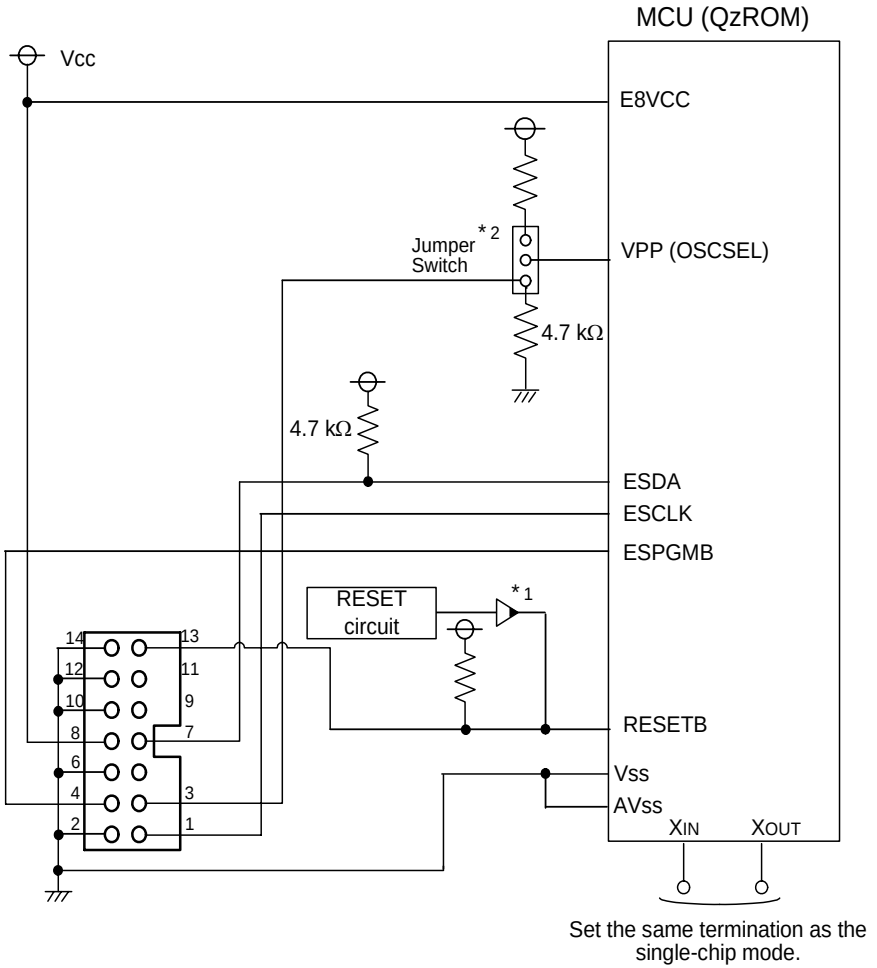
Communication Methods for E8a



On board programming circuit diagram for E8a(1)

1. 38D5 and 38D2 Group QzROM (OSCSEL = “H”)

IC Socket Board/E8a	QzROM Signal
1	ESCLK
2	VSS,AVSS
3	VPP
4	ESPGMB
5	N.C.
6	VSS,AVSS
7	ESDA
8	E8VCC
9	N.C.
10	VSS,AVSS
11	N.C.
12	VSS,AVSS
13	RESET
14	VSS,AVSS



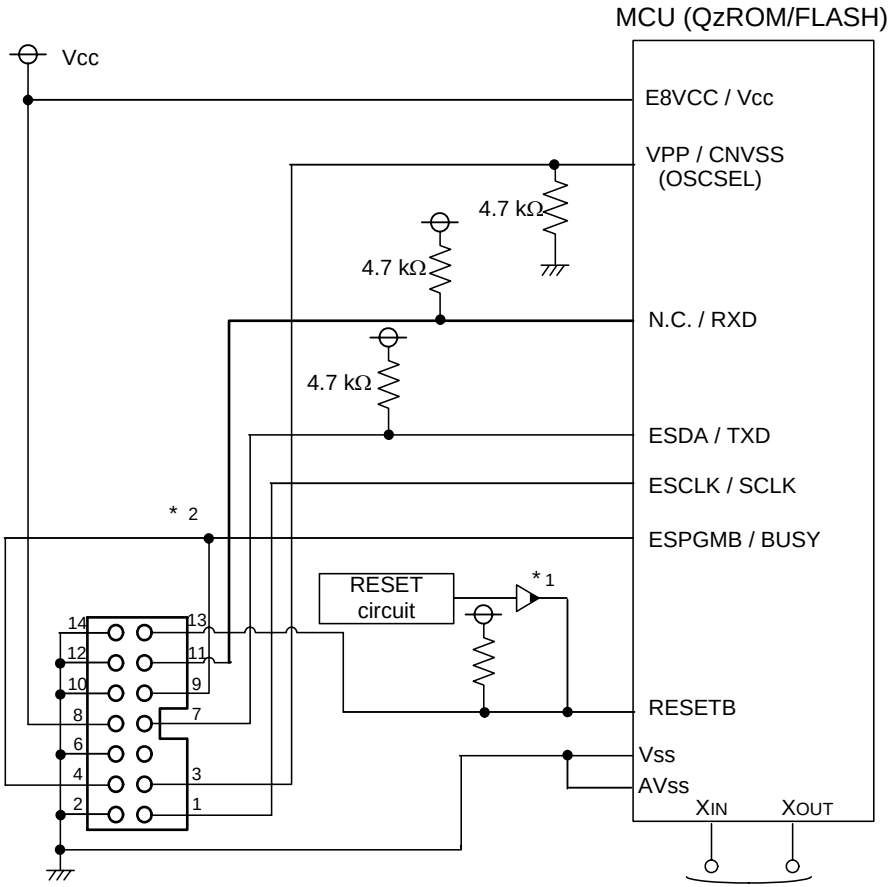
*1 : Open-collector buffer
*2 : When programming QzROM is performed, disconnect Vcc from OSCSEL by a jumper switch.

Note: For the programming circuit, the wiring capacity of each signal pin must not exceed 47 pF.

On board programming circuit diagram for E8a(2)

IC Socket Board/E8a	QzROM Signal	FLASH Signal
1	ESCLK	SCLK
2	VSS,AVSS	VSS,AVSS
3	VPP	CNVSS
4	ESPGMB	N.C.
5	N.C.	N.C.
6	VSS,AVSS	VSS,AVSS
7	ESDA	TXD
8	E8VCC	VCC
9	N.C.	BUSY
10	VSS,AVSS	VSS,AVSS
11	N.C.	RXD
12	VSS,AVSS	VSS,AVSS
13	RESET	RESET
14	VSS,AVSS	VSS,AVSS

2. 38D5 and 38D2 Group QzROM (OSCSEL = "L")
FLASH and QzROM except for the 3823 Group

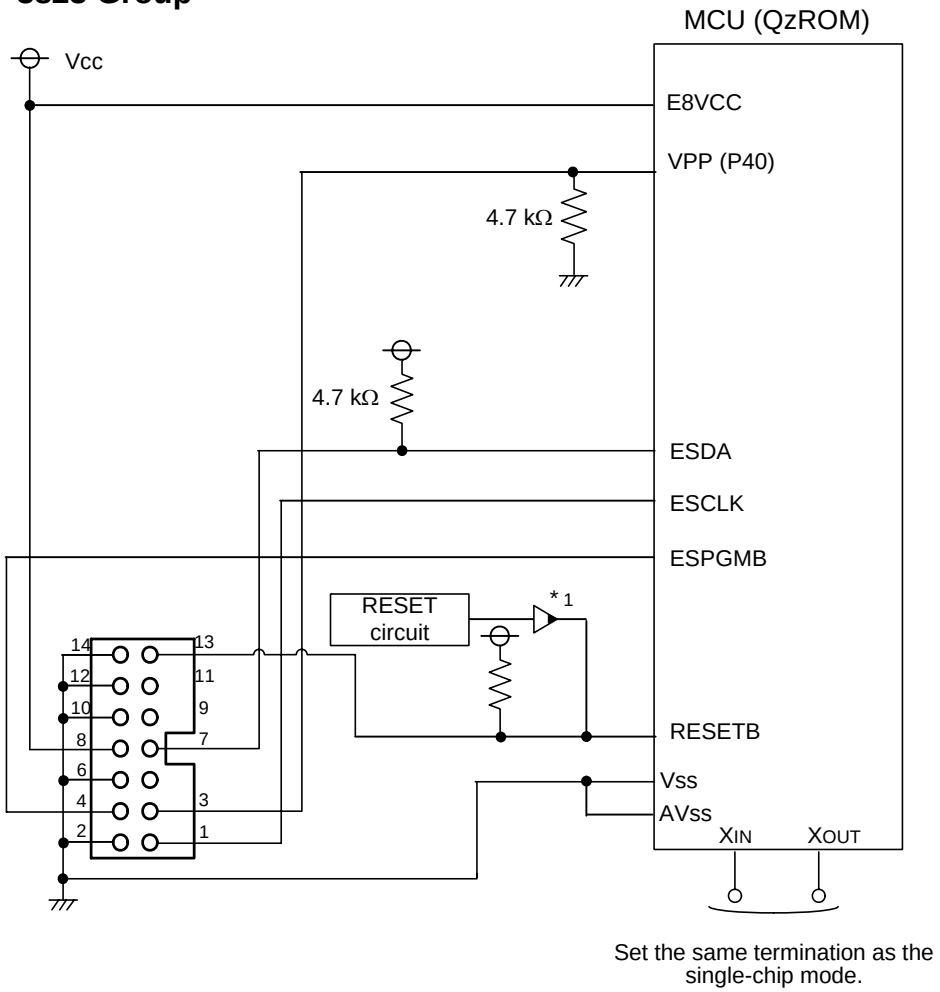


*1 : Open-collector buffer
*2 : To write data on the Flash ROM and QzROM using the same IC socket board / user board, connect Pin No. 4 and No. 9.
Note: For the programming circuit, the wiring capacity of each signal pin must not exceed 47 pF.
Connect the oscillation circuit to external for flash memory version.

On board programming circuit diagram for E8a(3)

IC Socket Board/E8a	QzROM Signal
1	ESCLK
2	VSS,AVSS
3	P40
4	ESPGMB
5	N.C.
6	VSS,AVSS
7	ESDA
8	E8VCC
9	N.C.
10	VSS,AVSS
11	N.C.
12	VSS,AVSS
13	RESET
14	VSS,AVSS

3. 3823 Group



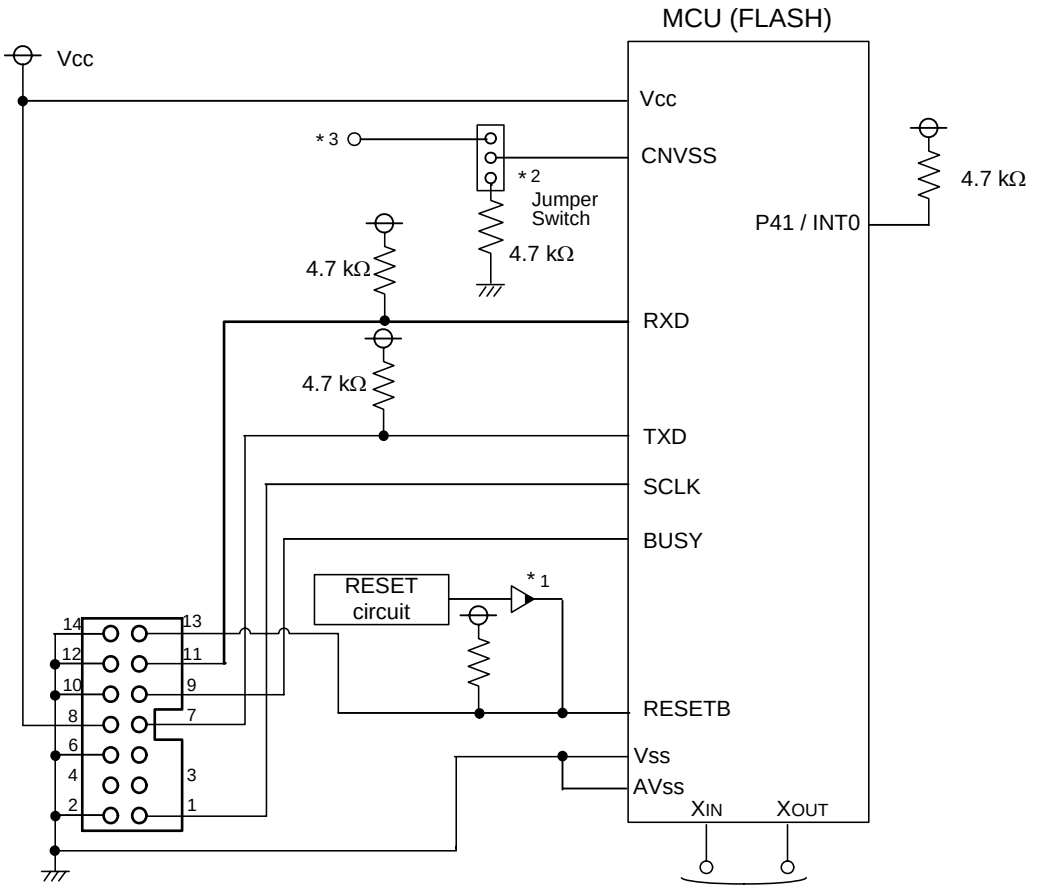
*1 : Open-collector buffer

Note: For the programming circuit, the wiring capacity of each signal pin must not exceed 47 pF.

On board programming circuit diagram for E8a(4)

IC Socket Board/E8a	FLASH Signal
1	SCLK
2	VSS,AVSS
3	N.C.
4	N.C.
5	N.C.
6	VSS,AVSS
7	TXD
8	VCC
9	BUSY
10	VSS,AVSS
11	RXD
12	VSS,AVSS
13	RESET
14	VSS,AVSS

4. 3850A Group FLASH



*1 : Open-collector buffer
*2 : When programming QzROM is performed, switch Vcc from CNVSS by a jumper switch. Execute pull-down handling in single-chip mode.
*3 : Vcc = 4.5 to 5.5 V: Connect to Vcc.
Vcc = 2.7 to 4.5 V: Supply 4.5 to 5.5 V.
Note: For the programming circuit, the wiring capacity of each signal pin must not exceed 47 pF.

Used pins for QzROM programming with E8a

E8a Pin No.	IC Socket Board (QzROM)	3803H Group (*1)	3823 Group	3850A Group 3858 Group	38D2 Group (*1)	38D5 Group (*1)
Applicable circuit diagram		(2)	(3)	(2)	(1),(2)	(1),(2)
1	ESCLK	P46/SCLK1	P42/INT0	P43/INT2 /SCMP2	P31/SCLK2	P42/SCLK1
3	VPP	CNVSS	P40	CNVSS	OSCSEL	OSCSEL
4	ESPGMB	P47/SRDY1 /CNTR2	P43/INT1	P40/CNTR1	P30/SRDY2	P43/SRDY1
7	ESDA	P45/TxD1	P44/RxD	P42/INT1	P32/TxD2	P41/TxD
8	E8VCC	VCC	VCC	VCC	VCC	VCC
9	BUSY	N.C.	N.C.	N.C.	N.C.	N.C.
11	RXD	N.C.	N.C.	N.C.	N.C.	N.C.
13	RESET	RESET	RESET	RESET	RESET	RESET
2, 6,10, 12,14	GND	VSS, AVSS	VSS, AVSS	VSS, AVSS	VSS, AVSS	VSS, AVSS

Products under development included

*** Pin No.5,9,11 : N.C.**

***1:To write data on the Flash ROM and QzROM using the same IC socket board / user board, connect Pin No. 4 and No. 9.**

Used pins for QzROM programming with E8a

E8a Pin No.	IC Socket Board (QzROM)	7544 Group	7545 Group	7546 Group 7547 Group	7548 Group 7549 Group
Applicable circuit diagram		(2)	(2)	(2)	(2)
1	ESCLK	P12/SCLK	P20/INT0	P12/SCLK1	P06/SCLK
3	VPP	CNVSS	CNVSS	CNVSS	CNVSS
4	ESPGMB	P10/RxD	P06/KEY6	P10/RxD1 /CAP0	P07/SRDY
7	ESDA	P11/TxD	P07/KEY7	P11/TxD1	P10/AN0 /KEY0/CMP0
8	E8VCC	VCC	VCC VDDR	VCC	VCC
9	BUSY	N.C.	N.C.	N.C.	N.C.
11	RXD	N.C.	N.C.	N.C.	N.C.
13	RESET	RESET	RESET	RESET	RESET
2, 6,10, 12,14	GND	VSS	VSS	VSS	VSS

Products under development included

*** Pin No.5,9,11 : N.C.**

Used pins for FLASH programming with E8a

E8a Pin No.	IC Socket Board (FLASH)	3803H Group(*1) 3804H Group	38D2 Group (*1)	38D5 Group(*1)	7542 Group
Applicable circuit diagram		(2)	(2)	(2)	(2)
1	SCLK	P46/SCLK1	P31/SCLK2	P42/SCLK1	P06/SCLK2
3	CNVSS	CNVSS	OSCSEL	OSCSEL	CNVSS
4	ESPGMB	N.C.	N.C.	N.C.	N.C.
7	TXD	P45/TxD1	P32/TxD2	P41/TxD	P05/TXD2
8	VCC	VCC	VCC	VCC	VCC
9	BUSY	P47/SRDY1 /CNTR2	P30/SRDY2	P43/SRDY	P07/SRDY2
11	RXD	P44/RxD1	P33/RxD2	P40/RxD	P04/RXD2
13	RESET	RESET	RESET	RESET	RESET
2, 6,10, 12,14	GND	VSS, AVSS	VSS, AVSS	VSS, AVSS	VSS

Products under development included

*** Pin No.4, 5 : N.C.**

***1:To write data on the Flash ROM and QzROM using the same IC socket board / user board, connect Pin No. 4 and No. 9.**

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