

RENESAS TECHNICAL UPDATE

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Renesas Electronics Corporation

Product category	MPU/MCU	Document No.	TN-RX*-A086A/E	Rev.	1.00
Title	Corrections of 'RX63T Group User's Manual: Hardware Rev.2.10'		Information category	Technical Notification	
Applicable Product	RX63T Group	Lot No.	Reference Document	RX63T Group User's Manual: Hardware Rev.2.10 (R01UH0238JJ0210)	
		All lots			

This document describes the corrections in RX63T Group User's Manual: Hardware Rev.2.10. Changes are underlined in the list below.

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Correct a note to 'Table 1.1 Outline of Specifications (7/7)'.

Note 1. Please contact Renesas Electronics sales office for derating of operation under Ta = +85°C to +105°C. Derating is the systematic reduction of load for the sake of improved reliability.

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Correct a description in 'Table 1.3 List of Products (5/5)'.

Original table

Group	Part No.	Order Part No.	Package	On-chip ROM Capacity	On-chip RAM Capacity	Operating Option	Operating Voltage	Temperature	
RX63T	R5F563TBBDFF	R5F563TBBDFF#V0	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included	VCC/ PLLVC/ VCC_USB 2.7 to 3.6V AVCC/ AVCC0 3.0 to 3.6V or 4.0 to 5.5V	-40 to +85°C (D Version)	
	R5F563TBBDFF	R5F563TBBDFF#V1	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included			
	R5F563TEEDFB	R5F563TEEDFB#V0	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module not included			
	R5F563TEEDFA	R5F563TEEDFA#V0	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module not included			
	R5F563TEEDFH	R5F563TEEDFH#V0	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module not included			
	R5F563TEEDFP	R5F563TEEDFP#V0	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module not included			
	R5F563TCEDFB	R5F563TCEDFB#V0	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module not included			
	R5F563TCEDFA	R5F563TCEDFA#V0	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module not included			
	R5F563TCEDFH	R5F563TCEDFH#V0	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module not included			
	R5F563TCEDFP	R5F563TCEDFP#V0	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module not included			
	R5F563TBEDFB	R5F563TBEDFB#V0	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module not included			
	R5F563TBEDFA	R5F563TBEDFA#V0	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module not included			
	R5F563TBEDFH	R5F563TBEDFH#V0	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module not included			
	R5F563TBEDFP	R5F563TBEDFP#V0	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module not included			
	R5F563T6EDFM	R5F563T6EDFM#V0	PLQP0064KB-A	64 Kbytes	8 Kbytes	CAN module not included	VCC/ PLLVC 2.7 to 3.6V AVCC0 3.0 to 3.6V	-40 to +105°C (G Version)*1	
	R5F563T5EDFM	R5F563T5EDFM#V0	PLQP0064KB-A	48 Kbytes	8 Kbytes	CAN module not included			
	R5F563T4EDFM	R5F563T4EDFM#V0	PLQP0064KB-A	32 Kbytes	8 Kbytes	CAN module not included			
	R5F563T6EDFL	R5F563T6EDFL#V0	PLQP0048KB-A	64 Kbytes	8 Kbytes	CAN module not included			
	R5F563T5EDFL	R5F563T5EDFL#V0	PLQP0048KB-A	48 Kbytes	8 Kbytes	CAN module not included			
	R5F563T4EDFL	R5F563T4EDFL#V0	PLQP0048KB-A	32 Kbytes	8 Kbytes	CAN module not included			
	R5F563TEAGFB	R5F563TEAGFB#V0	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module included	VCC/ PLLVC 4.0 to 5.5V VCC_USB 3.0 to 3.6V AVCC/ AVCC0 4.0 to 5.5V		
	R5F563TEAGFB	R5F563TEAGFB#V1	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TEAGFA	R5F563TEAGFA#V0	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TEAGFA	R5F563TEAGFA#V1	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TEAGFH	R5F563TEAGFH#V0	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TEAGFH	R5F563TEAGFH#V1	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TEAGFP	R5F563TEAGFP#V0	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TEAGFP	R5F563TEAGFP#V1	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module included			
	R5F563TCAGFB	R5F563TCAGFB#V0	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module included			
	R5F563TCAGFB	R5F563TCAGFB#V1	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module included			

It should be:

Group	Part No.	Order Part No.	Package	On-chip ROM Capacity	On-chip RAM Capacity	Operating Option	Operating Voltage	Temperature
RX63T	R5F563TBBDFF	R5F563TBBDFF#V0	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included	VCC/ PLL/VCC/ VCC_USB 2.7 to 3.6V AVCC/ AVCC0 3.0 to 3.6V or 4.0 to 5.5V	-40 to +85°C (D Version)
	R5F563TBBDFF	R5F563TBBDFF#V1	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TEEDFB	R5F563TEEDFB#V0	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module not included		
	R5F563TEEDFA	R5F563TEEDFA#V0	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module not included		
	R5F563TEEDFH	R5F563TEEDFH#V0	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module not included		
	R5F563TEEDFP	R5F563TEEDFP#V0	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module not included		
	R5F563TCEDFB	R5F563TCEDFB#V0	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module not included		
	R5F563TCEDFA	R5F563TCEDFA#V0	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module not included		
	R5F563TCEDFH	R5F563TCEDFH#V0	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module not included		
	R5F563TCEDFP	R5F563TCEDFP#V0	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module not included		
	R5F563TBEDFB	R5F563TBEDFB#V0	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module not included		
	R5F563TBEDFA	R5F563TBEDFA#V0	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module not included		
	R5F563TBEDFH	R5F563TBEDFH#V0	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module not included		
	R5F563TBEDFP	R5F563TBEDFP#V0	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module not included		
	R5F563T6EDFM	R5F563T6EDFM#V0	PLQP0064KB-A	64 Kbytes	8 Kbytes	CAN module not included	VCC/ PLL/VCC 2.7 to 3.6V AVCC0 3.0 to 3.6V	
	R5F563T5EDFM	R5F563T5EDFM#V0	PLQP0064KB-A	48 Kbytes	8 Kbytes	CAN module not included		
	R5F563T4EDFM	R5F563T4EDFM#V0	PLQP0064KB-A	32 Kbytes	8 Kbytes	CAN module not included		
	R5F563T6EDFL	R5F563T6EDFL#V0	PLQP0048KB-A	64 Kbytes	8 Kbytes	CAN module not included		
	R5F563T5EDFL	R5F563T5EDFL#V0	PLQP0048KB-A	48 Kbytes	8 Kbytes	CAN module not included		
	R5F563T4EDFL	R5F563T4EDFL#V0	PLQP0048KB-A	32 Kbytes	8 Kbytes	CAN module not included		
	R5F563TEAGFB	R5F563TEAGFB#V1	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module included	VCC/ PLL/VCC 4.0 to 5.5V VCC_USB 3.0 to 3.6V AVCC/ AVCC0 4.0 to 5.5V	-40 to +105°C (G Version)*1
	R5F563TEAGFA	R5F563TEAGFA#V1	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEAGFH	R5F563TEAGFH#V1	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEAGFP	R5F563TEAGFP#V1	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TCAGFB	R5F563TCAGFB#V1	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module included		

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Correct a description in 'Table 1.3 List of Products (4/5)'.

Original table

Group	Part No.	Order Part No.	Package	On-chip ROM Capacity	On-chip RAM Capacity	Operating Option	Operating Voltage	Temperature
RX63T	R5F563TCAGFA	R5F563TCAGFA#V0	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module included	VCC/ PLL VCC 4.0 to 5.5V VCC_USB 3.0 to 3.6V AVCC/ AVCC0 4.0 to 5.5V	-40 to +105°C (G Version)*1
	R5F563TCAGFA	R5F563TCAGFA#V1	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCAGFH	R5F563TCAGFH#V0	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCAGFH	R5F563TCAGFH#V1	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCAGFP	R5F563TCAGFP#V0	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCAGFP	R5F563TCAGFP#V1	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TBAGFB	R5F563TBAGFB#V0	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFB	R5F563TBAGFB#V1	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFA	R5F563TBAGFA#V0	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFA	R5F563TBAGFA#V1	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFH	R5F563TBAGFH#V0	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFH	R5F563TBAGFH#V1	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFP	R5F563TBAGFP#V0	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFP	R5F563TBAGFP#V1	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TEBGF	R5F563TEBGF#V0	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module included	VCC/ PLL VCC/ VCC_USB 2.7 to 3.6V AVCC/ AVCC0 3.0 to 3.6V or 4.0 to 5.5V	
	R5F563TEBGF	R5F563TEBGF#V1	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFA	R5F563TEBGFA#V0	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFA	R5F563TEBGFA#V1	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFH	R5F563TEBGFH#V0	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFH	R5F563TEBGFH#V1	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFP	R5F563TEBGFP#V0	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFP	R5F563TEBGFP#V1	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TCBGFB	R5F563TCBGFB#V0	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFB	R5F563TCBGFB#V1	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFA	R5F563TCBGFA#V0	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFA	R5F563TCBGFA#V1	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFH	R5F563TCBGFH#V0	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFH	R5F563TCBGFH#V1	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFP	R5F563TCBGFP#V0	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFP	R5F563TCBGFP#V1	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module included		

It should be:

Group	Part No.	Order Part No.	Package	On-chip ROM Capacity	On-chip RAM Capacity	Operating Option	Operating Voltage	Temperature
RX63T	R5F563TCAGFA	R5F563TCAGFA#V1	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module included	VCC/ PLL VCC 4.0 to 5.5V VCC_USB 3.0 to 3.6V AVCC/ AVCC0 4.0 to 5.5V	-40 to +105°C (G Version)*1
	R5F563TCAGFH	R5F563TCAGFH#V1	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCAGFP	R5F563TCAGFP#V1	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TBAGFB	R5F563TBAGFB#V1	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFA	R5F563TBAGFA#V1	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFH	R5F563TBAGFH#V1	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBAGFP	R5F563TBAGFP#V1	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TEBGFB	R5F563TEBGFB#V1	PLQP0144KA-A	512 Kbytes	48 Kbytes	CAN module included	VCC/ PLL VCC/ VCC_USB 2.7 to 3.6V AVCC/ AVCC0 3.0 to 3.6V or 4.0 to 5.5V	
	R5F563TEBGFA	R5F563TEBGFA#V1	PLQP0120KA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFH	R5F563TEBGFH#V1	PLQP0112JA-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TEBGFP	R5F563TEBGFP#V1	PLQP0100KB-A	512 Kbytes	48 Kbytes	CAN module included		
	R5F563TCBGFB	R5F563TCBGFB#V1	PLQP0144KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFA	R5F563TCBGFA#V1	PLQP0120KA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFH	R5F563TCBGFH#V1	PLQP0112JA-A	384 Kbytes	32 Kbytes	CAN module included		
	R5F563TCBGFP	R5F563TCBGFP#V1	PLQP0100KB-A	384 Kbytes	32 Kbytes	CAN module included		

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Correct a description in 'Table 1.3 List of Products (5/5)'.

Original table

Group	Part No.	Order Part No.	Package	On-chip ROM Capacity	On-chip RAM Capacity	Operating Option	Operating Voltage	Temperature
RX63T	R5F563TBBGFB	R5F563TBBGFB#V0	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module included	VCC/ PLLVC/ VCC_USB 2.7 to 3.6V AVCC/ AVCC0 3.0 to 3.6V or 4.0 to 5.5V	-40 to +105°C (G Version)*1
	R5F563TBBGFB	R5F563TBBGFB#V1	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFA	R5F563TBBGFA#V0	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFA	R5F563TBBGFA#V1	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFH	R5F563TBBGFH#V0	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFH	R5F563TBBGFH#V1	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFP	R5F563TBBGFP#V0	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFP	R5F563TBBGFP#V1	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563T6EGFM	R5F563T6EGFM#V0	PLQP0064KB-A	64 Kbytes	8 Kbytes	CAN module not included	VCC/ PLLVC/ 2.7 to 3.6V AVCC0 3.0 to 3.6V	
	R5F563T5EGFM	R5F563T5EGFM#V0	PLQP0064KB-A	48 Kbytes	8 Kbytes	CAN module not included		
	R5F563T4EGFM	R5F563T4EGFM#V0	PLQP0064KB-A	32 Kbytes	8 Kbytes	CAN module not included		
	R5F563T6EGFL	R5F563T6EGFL#V0	PLQP0048KB-A	64 Kbytes	8 Kbytes	CAN module not included		
	R5F563T5EGFL	R5F563T5EGFL#V0	PLQP0048KB-A	48 Kbytes	8 Kbytes	CAN module not included		
	R5F563T4EGFL	R5F563T4EGFL#V0	PLQP0048KB-A	32 Kbytes	8 Kbytes	CAN module not included		

Note 1. Please contact us if you are using a G version.

It should be:

Group	Part No.	Order Part No.	Package	On-chip ROM Capacity	On-chip RAM Capacity	Operating Option	Operating Voltage	Temperature
RX63T	R5F563TBBGFB	R5F563TBBGFB#V1	PLQP0144KA-A	256 Kbytes	24 Kbytes	CAN module included	VCC/ PLLVCC/ VCC_USB 2.7 to 3.6V AVCC/ AVCC0 3.0 to 3.6V or 4.0 to 5.5V	-40 to +105°C (G Version)*1
	R5F563TBBGFA	R5F563TBBGFA#V1	PLQP0120KA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFH	R5F563TBBGFH#V1	PLQP0112JA-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563TBBGFP	R5F563TBBGFP#V1	PLQP0100KB-A	256 Kbytes	24 Kbytes	CAN module included		
	R5F563T6EGFM	R5F563T6EGFM#V0	PLQP0064KB-A	64 Kbytes	8 Kbytes	CAN module not included	VCC/ PLLVCC 2.7 to 3.6V AVCC0 3.0 to 3.6V	
	R5F563T5EGFM	R5F563T5EGFM#V0	PLQP0064KB-A	48 Kbytes	8 Kbytes	CAN module not included		
	R5F563T4EGFM	R5F563T4EGFM#V0	PLQP0064KB-A	32 Kbytes	8 Kbytes	CAN module not included		
	R5F563T6EGFL	R5F563T6EGFL#V0	PLQP0048KB-A	64 Kbytes	8 Kbytes	CAN module not included		
	R5F563T5EGFL	R5F563T5EGFL#V0	PLQP0048KB-A	48 Kbytes	8 Kbytes	CAN module not included		
	R5F563T4EGFL	R5F563T4EGFL#V0	PLQP0048KB-A	32 Kbytes	8 Kbytes	CAN module not included		

Note: Orderable part numbers are current as of when this manual was published. Please make sure to refer to the relevant product page on the Renesas website for the latest part numbers.

Note: The products with the product ID code 1 (ex. R5F563TEADFB#V1) are the revised version to the specification constraints of technical update TX-RX*-A84A / E described.

Note 1. Please contact Renesas Electronics sales office for derating of operation under Ta = +85°C to +105°C. Derating is the systematic reduction of load for the sake of improved reliability.

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Add the ADGSPMR Register to 'Table 6.1 List of I/O Registers (Address Order) (20/56)'.

Address	Module Symbol	Register Name	Register Symbol	Number of bits	Access size	Number of Access States		Module Name	Reference Page	Remarks
						ICLK > PCLK	ICLK < PCLK			
000890FCh	S12AD	A/D Group Scan Priority Control Register	ADGSPMR	16	16	2, 3PCLKB	2ICLK	S12ADB	—	Not present in versions with 64 or 48 pins.

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Correct a description in 'Table 6.1 List of I/O Registers (Address Order) (54/56)'.

Address	Module Symbol	Register Name	Register Symbol	Number of bits	Access size	Number of Access States		Module Name	Reference Page	Remarks
						ICLK > PCLK	ICLK < PCLK			
000C3002h	DPC	Software Start Setting Register 0	SOFTSTAR T0	16	16	3 to 5 PCLKA	2, 3 ICLK	DPC	1633	Not present in versions with 64 or 48 pins.
000C3006h	DPC	Software Start Setting Register 1	SOFTSTAR T1	16	16	3 to 5 PCLKA	2, 3 ICLK		1633	Not present in versions with 64 or 48 pins.
000C300Ah	DPC	Software Start Setting Register 2	SOFTSTAR T2	16	16	3 to 5 PCLKA	2, 3 ICLK		1633	Not present in versions with 64 or 48 pins.
000C300Eh	DPC	Software Start Setting Register 3	SOFTSTAR T3	16	16	3 to 5 PCLKA	2, 3 ICLK		1633	Not present in versions with 64 or 48 pins.
000C3012h	DPC	Reference Value Setting Register 0	VOTARGET 0	16	16	3 to 5 PCLKA	2, 3 ICLK		1634	Not present in versions with 64 or 48 pins.
000C3016h	DPC	Reference Value Setting Register 1	VOTARGET 1	16	16	3 to 5 PCLKA	2, 3 ICLK		1634	Not present in versions with 64 or 48 pins.
000C301Ah	DPC	Reference Value Setting Register 2	VOTARGET 2	16	16	3 to 5 PCLKA	2, 3 ICLK		1634	Not present in versions with 64 or 48 pins.
000C301Eh	DPC	Reference Value Setting Register 3	VOTARGET 3	16	16	3 to 5 PCLKA	2, 3 ICLK		1634	Not present in versions with 64 or 48 pins.
000C3022h	DPC	Reference Value Select Register	REFSEL	16	16	3 to 5 PCLKA	2, 3 ICLK		1634	Not present in versions with 64 or 48 pins.
000C3026h	DPC	PWM Channel Setting Register	CHLSEL	16	16	3 to 5 PCLKA	2, 3 ICLK		1635	Not present in versions with 64 or 48 pins.
000C302Ah	DPC	Control Enable Setting Register	ENABLE	16	16	3 to 5 PCLKA	2, 3 ICLK		1635	Not present in versions with 64 or 48 pins.
000C302Eh	DPC	Control Calculation Parameter Setting Register KP0	PARAMKP0	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3032h	DPC	Control Calculation Parameter Setting Register KI0	PARAMKI0	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3036h	DPC	Control Calculation Parameter Setting Register KQ0	PARAMKQ0	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C303Ah	DPC	Control Calculation Parameter Setting Register KF0	PARAMKF0	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C303Eh	DPC	Control Calculation Parameter Setting Register KP1	PARAMKP1	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3042h	DPC	Control Calculation Parameter Setting Register KI1	PARAMKI1	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3046h	DPC	Control Calculation Parameter Setting Register KQ1	PARAMKQ1	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C304Ah	DPC	Control Calculation Parameter Setting Register KF1	PARAMKF1	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C304Eh	DPC	Control Calculation Parameter Setting Register KP2	PARAMKP2	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3052h	DPC	Control Calculation Parameter Setting Register KI2	PARAMKI2	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3056h	DPC	Control Calculation Parameter Setting Register KQ2	PARAMKQ2	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C305Ah	DPC	Control Calculation Parameter Setting Register KF2	PARAMKF2	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.

□ Page 190

Correct a description in 'Table 6.1 List of I/O Registers (Address Order) (55/56)'.

Address	Module Symbol	Register Name	Register Symbol	Number of bits	Access size	Number of Access States		Module Name	Reference Page	Remarks
						ICLK > PCLK	ICLK < PCLK			
000C305Eh	DPC	Control Calculation Parameter Setting Register KP3	PARAMKP3	16	16	3 to 5 PCLKA	2, 3 ICLK	DPC	1636	Not present in versions with 64 or 48 pins.
000C3062h	DPC	Control Calculation Parameter Setting Register KI3	PARAMKI3	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3066h	DPC	Control Calculation Parameter Setting Register KQ3	PARAMQ3	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C306Ah	DPC	Control Calculation Parameter Setting Register KF3	PARAMKF3	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C306Ch	DPC	Control Calculation Result Higher-Order Bits Store Register 0	RESULTU0	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C306Eh	DPC	Control Calculation Result Lower-Order Bits Store Register 0	RESULTL0	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3070h	DPC	Control Calculation Result Higher-Order Bits Store Register 1	RESULTU1	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3072h	DPC	Control Calculation Result Lower-Order Bits Store Register 1	RESULTL1	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3074h	DPC	Control Calculation Result Higher-Order Bits Store Register 2	RESULTU2	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3076h	DPC	Control Calculation Result Lower-Order Bits Store Register 2	RESULTL2	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C3078h	DPC	Control Calculation Result Higher-Order Bits Store Register 3	RESULTU3	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C307Ah	DPC	Control Calculation Result Lower-Order Bits Store Register 3	RESULTL3	16	16	3 to 5 PCLKA	2, 3 ICLK		1636	Not present in versions with 64 or 48 pins.
000C307Eh	DPC	Input Code Monitor Enable Register	TMONEN	16	16	3 to 5 PCLKA	2, 3 ICLK		1637	Not present in versions with 64 or 48 pins.
000C3082h	DPC	Maximum Input Code Monitor Register 0	TMONMAX0	16	16	3 to 5 PCLKA	2, 3 ICLK		1637	Not present in versions with 64 or 48 pins.
000C3086h	DPC	Minimum Input Code Monitor Register 0	TMONMIN0	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.
000C308Ah	DPC	Maximum Input Code Monitor Register 1	TMONMAX1	16	16	3 to 5 PCLKA	2, 3 ICLK		1637	Not present in versions with 64 or 48 pins.
000C308Eh	DPC	Minimum Input Code Monitor Register 1	TMONMIN1	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.
000C3092h	DPC	Maximum Input Code Monitor Register 2	TMONMAX2	16	16	3 to 5 PCLKA	2, 3 ICLK		1637	Not present in versions with 64 or 48 pins.
000C3096h	DPC	Minimum Input Code Monitor Register 2	TMONMIN2	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.
000C309Ah	DPC	Maximum Input Code Monitor Register 3	TMONMAX3	16	16	3 to 5 PCLKA	2, 3 ICLK		1637	Not present in versions with 64 or 48 pins.
000C309Eh	DPC	Minimum Input Code Monitor Register 3	TMONMIN3	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.
000C30A2h	DPC	Overvoltage Output Error Judgment Threshold Setting Register 0	ERRVTH0	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.
000C30A6h	DPC	Overvoltage Output Error Judgment Threshold Setting Register 1	ERRVTH1	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.
000C30AAh	DPC	Overvoltage Output Error Judgment Threshold Setting Register 2	ERRVTH2	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.

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Correct a description in 'Table 6.1 List of I/O Registers (Address Order) (56/56)'.

Address	Module Symbol	Register Name	Register Symbol	Number of bits	Access size	Number of Access States		Module Name	Reference Page	Remarks
						ICLK > PCLK	ICLK < PCLK			
000C30AEh	DPC	Overvoltage Output Error Judgment Threshold Setting Register 3	ERRVTH3	16	16	3 to 5 PCLKA	2, 3 ICLK	DPC	1638	Not present in versions with 64 or 48 pins.
000C30B2h	DPC	PWM Shut-Down at Overvoltage Output Error Setting Register	ERRDWN	16	16	3 to 5 PCLKA	2, 3 ICLK		1638	Not present in versions with 64 or 48 pins.

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Correct a description in 'Table 21.6 Register Settings for Input/Output Pin Function in 144-Pin LQFP'.

PSEL[4:0]Settings 0000b (initial value)	Pin				
	P10	P11	P12	P13	P14
00010b	MTCLKD	MTCLKC	—	—	—
01010b	—	—	—	CTS2# RTS2# SS2#	SCK2
10001b	—	—	USB0_DPRPD	USB0_VBUSEN	—

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Correct a description in 'Table 21.9 Register Settings for Input/Output Pin Function in 64-Pin LQFP'.

PSEL[3:0] Settings 0000b (initial value)	Pin	
	P10	P11
0010b	MTCLKD	MTCLKC

□ Page 525

Correct a description in '22.2.17 Timer Output Master Enable Register (TOER)'.

Bit	Symbol	Bit Name	Description	R/W
b0	OE3B	Master Enable MTIOC3B	0: MTU3 output is <u>disabled *1</u> 1: MTU3 output is enabled	R/W
b1	OE4A	Master Enable MTIOC4A	0: MTU3 output is <u>disabled *1</u> 1: MTU3 output is enabled	R/W
b2	OE4B	Master Enable MTIOC4B	0: MTU3 output is <u>disabled *1</u> 1: MTU3 output is enabled	R/W
b3	OE3D	Master Enable MTIOC3D	0: MTU3 output is <u>disabled *1</u> 1: MTU3 output is enabled	R/W
b4	OE4C	Master Enable MTIOC4C	0: MTU3 output is <u>disabled *1</u> 1: MTU3 output is enabled	R/W
b5	OE4D	Master Enable MTIOC4D	0: MTU3 output is <u>disabled *1</u> 1: MTU3 output is enabled	R/W
b7, b6	—	Reserved	These bits are always read as 1. The write value should be 1.	R/W

Note 1. To output a non-active level from each pin when MTU output is disabled, make necessary settings for non-active level output from general I/O ports in the data direction registers (PDR) , port output data registers (PODR), and port mode register (PMR) in advance. For details, refer to I/O Ports section.

□ Page 883

Correct a description in '24.2.26 General PWM Timer Cycle Setting Register (GTPR)'.

GTPR is a 16-bit readable/writable register that sets the maximum count value of GTCNT. There is one GTPR counter for each channel.

For saw waves, the value of (GTPR + 1) is the cycle. For triangle waves, the value of (GTPR value × 2) is the cycle.

Value written to GTPR is ignored when write-protection is set to the relevant channel by the GTWP.WPn bit (n = 0 to 7).

□ Page 911

Correct a description in '24.3.2.2 Buffer Operation for GTCCRA and GTCCRB'.

(1) When GTCCRA or GTCCRB Functions as Output Compare Register

Buffer transfer is performed at an overflow (during up-count operation) or an underflow (during down-count operation) in saw-wave mode, and at both crest and trough in triangle-wave mode.

Page 1251

Add a chapter in '29.12 Usage Notes'.

35.12.14 Note in Relation to Transmit Enable Bit (TE)

When the SCR.TE bit is set to 0 (serial transmission disabled) with a pin functions as TXDn (n = 0 to 3, 12), the pin output goes high impedance.

To avoid the TXDn line going high impedance, take any of the following methods.

(1) Connect pull-up resistor to the TXDn line.

(2) Before setting the SCR.TE bit to 0, modify the pin function to "general I/O port, output", or, after setting the SCR.TE bit to 1, modify the pin function to TXDn.

Page 1364

Correct a description in 'Table 31.8 Operation in CAN Reset Mode and CAN Halt Mode'.

Mode	Receiver	Transmitter	Transmitter
CAN reset mode (forcible transition) CANM[1:0] = 11b	CAN module enters CAN reset mode without waiting for the end of message reception.	CAN module enters CAN reset mode without waiting for the end of message transmission.	CAN module enters CAN reset mode without waiting for the end of bus-off recovery.
CAN reset mode CANM[1:0] = 01b	CAN module enters CAN reset mode without waiting for the end of message reception.	CAN module enters CAN reset mode after waiting for the end of message transmission.*1,*4	CAN module enters CAN reset mode without waiting for the end of bus-off recovery.
CAN halt mode	CAN module enters CAN halt mode after waiting for the end of message reception.*2,*3	CAN module enters CAN halt mode after waiting for the end of message transmission.*1,*2,*4	[When the BOM[1:0] bits are 00b] A halt request from a program will be accepted only after bus-off recovery. [When the BOM[1:0] bits are 01b] CAN module automatically enters CAN halt mode without waiting for the end of bus-off recovery (regardless of a halt request from a program). [When the BOM[1:0] bits are 10b] CAN module automatically enters CAN halt mode after waiting for the end of bus-off recovery (regardless of a halt request from a program). [When the BOM[1:0] bits are 11b] CAN module enters CAN halt mode (without waiting for the end of bus-off recovery) if a halt is requested by a program during bus-off.

CANM[1:0], BOM[1:0]: Bits in CTRLR

Note 1. If several messages are requested to be transmitted, mode transition occurs after the completion of the first message transmission. In a case that the CAN reset mode is being requested during suspend transmission, mode transition occurs when the bus is idle, the next transmission ends, or the CAN module becomes a receiver.

Note 2. If the CAN bus is locked in dominant state, the program can detect this state by monitoring the EIFR.BLIF flag. The CAN module does not enter CAN halt mode while the CAN bus is locked in dominant state. Enter CAN reset mode instead.

Note 3. If a CAN bus error occurs during reception after CAN halt mode is requested, the CAN module enters CAN halt mode. However, the CAN module does not enter CAN Halt mode when the CAN bus is locked in dominant state.

Note 4. If a CAN bus error or arbitration-lost occurs during transmission after CAN reset mode or CAN halt mode is requested, the CAN module enters the requested operating mode. However, the CAN module does not enter CAN Halt mode when the CAN bus is locked in dominant state.

□ Page 1364

Add a description in '34.2.12 A/D Group Scan Priority Control Register (ADGSPCR)'.

PGS Bit (Group A Priority Control Setting)

This bit sets the priority of operation on group A. Set this bit to 1 when giving priority to operation on group A.

When the PGS bit is to be set to 1, the ADCSR.ADCS[1:0] bits must be set to 01b (group scan mode). If the bits are set to any other values, operation is not guaranteed.

When the PGS bit has been set to 0, clear operation must be performed by software according to section 34.6.2, Notes on Stopping A/D Conversion. When the PGS bit has been set to 1, make settings according to section 34.3.4.4, Operation under Group-A Priority Control.

When operating under group-A priority control in the group-scan mode, set to 1 to the PGSC bit of the ADGSPMR register, or specify the frequency ratio between the peripheral module clock (PCLKB) and A/D conversion clock, ADCLK (=PCLKD) as indicated below.

- PCLKB = PCLKD (Set the same value to the SCKCR. PCKB [3:0] and SCKCR. PCKD[3:0])
- PCLKB/2 = PCLKD (Set a value which +1 is added to the one set to the SCKCR. PCKB [3:0] to the SCKCR. PCKD[3:0])

□ Page 1494

Add a new register description in '34.2 Register Descriptions'.

34.2.19 Group Scan Priority Control Register (ADGSPMR)

Address S12AD: ADGSPMR 0008 90FCh

	b15	b14	b13	b12	b11	b10	b9	b8	b7	b6	b5	b4	b3	b2	b1	b0
	PGSC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Value after reset	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bit	Symbol	Bit name	Description	R/W
b14-b0	—	Reserved	These bits are read as 0. The write value should be 0.	R/W
b15	PGSC	Clock frequency setting bit when operating under group-A priority control	0: When operating under group-A priority control, frequency ratio between PCLK and ADCLK is 2:1 or 1:1. 1: When operating under group-A priority control, frequency ratio between PCLK and ADCLK is 4:1 or over.	R/W

ADGSPMR should always be accessed in 16-bits.

Page 1743

Correct a description in 'Table 42.1 Absolute Maximum Ratings'.

Item		Symbol	Value	Unit
Power supply voltage		VCC, PLLVCC	−0.3 to +6.5	V
USB power supply voltage		VCC_USB*1	−0.3 to +6.5	V
Analog power supply voltage		AVCC0, AVCC*2	−0.3 to +6.5	V
Reference power supply voltage		VREFH0*2	−0.3 to AVCC0 to + 0.3	V
		VREF*2	−0.3 to AVCC0 to + 0.3	V
Input voltage (except for ports 4 to 6, C, USB0_DP, and USB0_DM)		V _{in}	−0.3 to VCC + 0.3	V
Input voltage (USB0_DP and USB0_DM)		V _{in}	−0.3 to VCC_USB + 0.3	V
Input voltage (port 4)		V _{in}	−0.3 to AVCC0 to + 0.3	V
Input voltage (ports 5, 6, and C)		V _{in}	−0.3 to AVCC to + 0.3	V
Analog input voltage (port 4)		V _{AN}	−0.3 to AVCC0 to + 0.3	V
Analog input voltage (ports 5, 6, and C)		V _{AN}	−0.3 to AVCC to + 0.3	V
Operating temperature	D version product	T _{opr}	<u>−40 to +85</u>	°C
	G version product	T _{opr}	<u>−40 to +105</u>	°C
Storage temperature		T _{stg}	−55 to +125	°C

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Correct a description in 'Table 42.6 Permissible Power Consumption'.

Table 42.6 Permissible Power Consumption [\(G version product only\)](#)

Note: Common standard values for conditions not given in the table are listed as "Condition 1" to "Condition 3" below.

Condition 1: VCC = PLLVCC = 2.7 to 3.6 V, VSS = PLLVSS = AVSS0 = AVSS = VREFL0 = 0 V

AVCC0 = AVCC = 3.0 to 3.6V, VREFH0 = 3.0 V to AVCC0, VREF = 3.0 V to AVCC

Condition 2: VCC = PLLVCC = 2.7 to 3.6 V, VSS = PLLVSS = AVSS0 = AVSS = VREFL0 = 0V

AVCC0 = AVCC = 4.0 to 5.5 V, VREFH0 = 4.0 V to AVCC0, VREF = 4.0 V to AVCC

Condition 3: VCC = PLLVCC = 4.0 to 5.5 V, VSS = PLLVSS = AVSS0 = AVSS = VREFL0 = 0V

AVCC0 = AVCC = 4.0 to 5.5V, VREFH0 = 4.0 V to AVCC0, VREF = 4.0 V to AVCC

T_a = −40 to +105°C. T_a is common to conditions 1 to 3.

Item	Symbol	Typ.	Max.	Unit	Test Conditions
Total permissible power consumption*1	P _d	—	325	mW	85°C < T _a ≤ 105°C

[Note. Please contact Renesas Electronics sales office for derating of operation under T_a = +85°C to +105°C. Derating is the systematic reduction of load for the sake of improved reliability.](#)

Note 1. The total power [consumption](#) of the whole chip including output current.

□ Page 1767

Correct a description in 'Table 42.21 Timing of the PWM Delay Generation Circuit'.

Condition 1: VCC = PLLVCC = 2.7 to 3.6 V, VSS = PLLVSS = AVSS0 = AVSS = VREFL0 = 0 V

AVCC0 = AVCC = 3.0 to 3.6 V, VREFH0 = 3.0 V to AVCC0, VREF = 3.0 V to AVCC

Condition 2: VCC = PLLVCC = 2.7 to 3.6 V, VSS = PLLVSS = AVSS0 = AVSS = VREFL0 = 0 V

AVCC0 = AVCC = 4.0 to 5.5 V, VREFH0 = 4.0 V to AVCC0, VREF = 4.0 V to AVCC

Condition 3: VCC = PLLVCC = 4.0 to 5.5 V, VSS = PLLVSS = AVSS0 = AVSS = VREFL0 = 0 V

AVCC0 = AVCC = 4.0 to 5.5 V, VREFH0 = 4.0 V to AVCC0, VREF = 4.0 V to AVCC

Ta = Topr. Ta is common to conditions 1 to 3.

□ Page 1788

Correct a description in 'Table 43.1 Absolute Maximum Ratings'.

Item		Symbol	Value	Unit
Power supply voltage		VCC	−0.3 to +4.6	V
Input voltage (except for ports for 5 V tolerant* 1 and port 4)		Vin	−0.3 to VCC + 0.3	V
Input voltage (port 4)		Vin	−0.3 to AVCC0 to + 0.3	V
Input voltage (ports for 5 V tolerant)* 1		Vin	−0.3 to +5.8	V
Analog power supply voltage		AVCC0*2	−0.3 to +4.6	V
Reference power supply voltage		VREFH0*2	−0.3 to AVCC0 to + 0.3	V
Analog input voltage (port 4)		VAN	−0.3 to AVCC0 to + 0.3	V
Operating temperature	D version product	Topr	−40 to +85	°C
	G version product	Topr	−40 to +105	°C
Storage temperature		Tstg	−55 to +125	°C

□ Page 1791

Correct a description in 'Table 43.5 Permissible Power Consumption'.

Table 43.5 Permissible Power Consumption (G version product only)

Condition: VCC = 2.7 to 3.6 V, VSS = AVSS0 = VREFL0 = 0 V

AVCC0 = 3.0 to 3.6 V, VREFH0 = 3.0 V to AVCC0

Ta = Topr

Item	Symbol	Typ.	Max.	Unit	Test Conditions
Total permissible power consumption*1	Pd	—	150	mW	85°C < Ta ≤ 105°C 64-pin version
	Pd	—	120	mW	85°C < Ta ≤ 105°C 48-pin version

Note. Please contact Renesas Electronics sales office for derating of operation under Ta = +85°C to +105°C. Derating is the systematic reduction of load for the sake of improved reliability.

Note 1. The total power consumption of the whole chip including output current.