

## RX630 Group

R01AN1081EJ0100

Rev.1.00

### Differences by Pin Count in MPC Pin Functions

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#### Abstract

The RX630 Group is offered in a variety of packages with different pin counts. This application note provides reference information on the variations in pin functions selectable by the multifunction pin controller (MPC) for different pin counts.

#### Products

RX630 Group

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### 1. Points to Consider Regarding Variations in Pin Functions According to RX630 Group Package (Pin Count)

The pin functions selectable by the MPC differ according to the pin counts of the various RX630 Group packages. This must be considered when switching microcontroller products within the RX630 Group. For details, see section 2., Differences, and RX630 Group—User’s Manual: Hardware.

## 2. Differences

### 2.1 Function Differences by Pin Count

Table 2.1.1 lists function differences by pin count.

**Table 2.1.1 Function Differences by Pin Count**

○:Selectable    -: Pin function eliminated (setting prohibited)    ■: Pin eliminate

		Pin Function	MPC Setting Value	Pin Count			
				177/176-Pin	145/144-Pin	100-Pin	80-Pin
Port1	P12	MTICSU	00001b	○	—	—	—
		RXD2	01010b	○	—	—	—
		SMISO2 SSCL2	01010b	○	—	—	—
	P13	TXD2	01010b	○	○	○	—
		SMOSI2 SSDA2	01010b	○	○	○	—
	P15	SCK3	01011b	○	○	○	—
	P16	RXD3	01011b	○	○	○	—
		SMISO3 SSCL3	01011b	○	○	○	—
	P17	TXD3	01011b	○	○	○	—
		SMOSI3 SSDA3	01011b	○	○	○	—
Port2	P20	TXD0	01010b	○	○	○	—
		SMOSI0 SSDA0	01010b	○	○	○	—
	SDA1	01111b	○	○	—	—	
	P21	RXD0	01010b	○	○	○	—
		SMISO0 SSCL0	01010b	○	○	○	—
	P26	SCL1	01111b	○	○	—	—
		CTS3#	01011b	○	○	○	—
P32	TXD0	01011b	○	○	○	—	
	SMOSI0 SSDA0	01011b	○	○	○	—	
P34	CTX0	10000b	○	○	○	—	
	SCK0	01011b	○	○	○	—	
Port5	P54	CTS2#	01101b	○	○	○	—
PortB	P80	RXD4	01010b	○	○	—	—
		SMISO4 SSCL4	01010b	○	○	—	—
	P81	TXD4	01010b	○	○	—	—
		SMOSI4 SSDA4	01010b	○	○	—	—
P82	CTS4#	01010b	○	○	—	—	
P83	SCK4	01010b	○	○	—	—	

  

		Pin Function	MPC Setting Value	Pin Count				
				177/176-Pin	145/144-Pin	100-Pin	80-Pin	
PortC	PC0	SCL3	01111b	○	○	—	—	
	PC1	SDA3	01111b	○	○	—	—	
		TIOCC6	00011b	○	○	—	—	
	PC4	TOLKE	00100b	○	○	—	—	
		TIOCC6	00011b	○	○	—	—	
	PC5	TOLKF	00100b	○	○	—	—	
		TIOCA6	00011b	○	○	—	—	
PC6	TIOCB6	00011b	○	○	—	—		
	TIOCB7	00011b	○	○	—	—		
PortD	PD1	TCLKG	00100b	○	○	—	—	
		MOSIC	01101b	○	○	○	—	
		CTX0	10000b	○	○	○	—	
	PD2	TIOCA8	00011b	○	○	—	—	
		MISOC	01101b	○	○	○	—	
	PD3	CRX0	10000b	○	○	○	—	
		TIOCB8	00011b	○	○	—	—	
		TCLKH	00100b	○	○	—	—	
	PortE	PD4	RSPKCC	01101b	○	○	—	—
			SSLC0	01101b	○	○	—	—
PD5		SSLC1	01101b	○	○	—	—	
PD6		SSLC2	01101b	○	○	—	—	
PD7		SSLC3	01101b	○	○	—	—	
PE0		TIOCC9	00011b	○	○	—	—	
		TIOCD9	00011b	○	○	—	—	
	TIOCA9	00011b	○	○	—	—		
	TIOCB9	00011b	○	○	—	—		
	TIOCA10	00011b	○	○	—	—		
PE6	TIOCB10	00011b	○	○	—	—		
	CTS4#	01011b	○	○	—	—		
PE7	TIOCB11	00011b	○	○	—	—		

2.2 Difference in Pin Functions of Ports by Pin Count

Tables 2.2.1 to 2.2.17 list the differences in the pin functions selectable by the MPC for each port according to the pin count.

Table 2.2.1 Port 0

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
P00	177/176-Pin	Hi-Z	---	---	---	---	TMRI0	---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
P01	177/176-Pin	Hi-Z	---	---	---	---	TMC10	---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
P02	177/176-Pin	Hi-Z	---	---	---	---	TMC11	---	---	---	---	---	---	SCK6	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---		---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---		---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---		---	---	---	---	---
P03	177/176-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
P04	177/176-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
P05	177/176-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
P06	177/176-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
P07	177/176-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	145/144-Pin		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 2.2.2 Port 1

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																		
		0000b	0001b	0010b	0011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	1000b	10001b	
P10	177/176-Pin	Hi-Z	MTIC5W	---	---	---	TMR13	---	---	---	---	---	---	---	---	---	---	---	---	
	145/144-Pin	Pin estimated																		
	100-Pin	Pin estimated																		
	80-Pin	Pin estimated																		
P11	177/176-Pin	Hi-Z	MTIC5V	---	---	---	TMC13	---	---	---	---	SCK2	---	---	---	---	---	---	---	
	145/144-Pin	Pin estimated																		
	100-Pin	Pin estimated																		
	80-Pin	Pin estimated																		
P12	177/176-Pin	Hi-Z	MTICSU	---	---	---	TMC11	---	---	---	---	RXD2 SMISO2 SSCL2	---	---	---	---	SCL0(FM+)	---	---	
	145/144-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	100-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	80-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
P13	177/176-Pin	Hi-Z	MTIOC0B	---	TIOCA5	---	TMO3	PO13	---	---	---	ADTRG#	---	---	---	---	SDA0(FM+)	---	---	
	145/144-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	100-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	80-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
P14	177/176-Pin	Hi-Z	MTIOC3A	MTCLKA	TIOCB5	TCLKA	TMR12	PO15	---	---	---	---	CTS1# RTS1# SS1#	---	---	---	---	CTX1	USB0_DPUPE	
	145/144-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	100-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	80-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
P15	177/176-Pin	Hi-Z	MTIOC0B	MTCLKB	TIOCB2	TCLKB	TMC12	PO13	---	---	---	---	RXD1 SMISO1 SSCL1	SCK3	---	---	---	---	CRX1-DS	
	145/144-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	100-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	80-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
P16	177/176-Pin	Hi-Z	MTIOC3C	MTIOC3D	TIOCB1	TCLKC	TMO2	PO14	RTCOUT	---	---	ADTRG0#	TXD1 SMOSI1 SSDA1	RXD3 SMISO3 SSCL3	---	MOSIA	---	SCL2-DS	IEXRD	USB0_VBUS
	145/144-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P17	177/176-Pin	Hi-Z	MTIOC3A	MTIOC3B	TIOCB0	TCLKD	TMO1	PO15	POE#	---	---	ADTRG#	SCK1	TXD3 SMOSI3 SSDA3	---	MISOA	---	SDA2-DS	IETXD	---
	145/144-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	100-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	80-Pin	Hi-Z	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 2.2.3 Port 2

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
P20	177/176-Pin	Hi-Z	MTIOC1A	---	TIOC3B	---	TMR10	PO0	---	---	---	TXD0 SMOSI0 SSDA0	---	---	---	---	SDA1	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P21	177/176-Pin	Hi-Z	MTIOC1B	---	TIOCA3	---	TMC10	PO1	---	---	---	RXD0 SMOS0 SSCL0	---	---	---	---	SCL1	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P22	177/176-Pin	Hi-Z	MTIOC3B	MTCLKC	TIOCC3	---	TMO0	PO2	---	---	---	SCK0	---	---	---	---	---	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P23	177/176-Pin	Hi-Z	MTIOC3D	MTCLKD	TIOC3D	---	---	PO3	---	---	---	TXD3 SMOSI3 SSDA3	CTS0# RTS0# SS0#	---	---	---	---	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P24	177/176-Pin	Hi-Z	MTIOC4A	MTCLKA	TIOC4A	---	TMR11	PO4	---	---	---	SCK3	---	---	---	---	---	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P25	177/176-Pin	Hi-Z	MTIOC4C	MTCLKB	TIOCA4	---	---	PO5	---	---	ADTRG0#	RXD3 SMOS3 SSCL3	---	---	---	---	---	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P26	177/176-Pin	Hi-Z	MTIOC2A	---	---	---	TMO1	PO6	---	---	---	TXD1 SMOSI1 SSDA1	CTS3# RTS3# SS3#	---	MOSIB	---	---	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
P27	177/176-Pin	Hi-Z	MTIOC2B	---	---	---	TMC13	PO7	---	---	---	SCK1	---	---	RSPCKB	---	---	---	---
	145/144-Pin																		
	100-Pin																		
	80-Pin																		

Table 2.2.4 Port 3

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																									
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b								
P30	177/176-Pin	Hi-Z	MTIOC4B	—	—	—	TMR13	PO8	POE6#	—	—	RXD1 SMOS01 SSCL1	—	—	MISOB	—	—	—	—								
	145/144-Pin			—	—	—				—	—		—	—		—	—	—	—	—	—	—	—				
	100-Pin			—	—	—				—	—		—	—		—	—	—	—	—	—	—	—	—	—		
	80-Pin			—	—	—				—	—		—	—		—	—	—	—	—	—	—	—	—	—		
P31	177/176-Pin	Hi-Z	MTIOC4D	—	—	—	TMC12	PO9	—	—	—	CTS1# RTS1# SS1#	—	—	SSLB0	—	—	—	—								
	145/144-Pin			—	—	—			—	—	—		—	—		—	—	—	—	—	—	—					
	100-Pin			—	—	—			—	—	—		—	—		—	—	—	—	—	—	—	—	—			
	80-Pin			—	—	—			—	—	—		—	—		—	—	—	—	—	—	—	—	—			
P32	177/176-Pin	Hi-Z	MTIOC0C	—	TIOC0C	—	TMO3	PO10	RTCOUT	—	—	TXD6 SMOS16 SSDA6	TXD0 SMOS10 SSDA0	—	—	—	—	—	CTX0*	—							
	145/144-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—		
	100-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
	80-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
P33	177/176-Pin	Hi-Z	MTIOC0D	—	TIOC0D	—	TMR13	PO11	POE3#	—	—	RXD6 SMOS06 SSCL6	RXD0 SMOS00 SSCL0	—	—	—	—	—	—	CRX0*	—						
	145/144-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—		
	100-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	—
P34	177/176-Pin	Hi-Z	MTIOC0A	—	—	—	TMC13	PO12	POE2#	—	—	SCK6	SCK0	—	—	—	—	—	—	—							
	145/144-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—			
	100-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
	80-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
P35	177/176-Pin	Hi-Z	MTIOC0A	—	—	—	TMC13	PO12	POE2#	—	—	SCK6	SCK0	—	—	—	—	—	—	—							
	145/144-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—			
	100-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
	80-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
P36	177/176-Pin	Hi-Z	MTIOC0A	—	—	—	TMC13	PO12	POE2#	—	—	SCK6	SCK0	—	—	—	—	—	—	—							
	145/144-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—			
	100-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
	80-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
P37	177/176-Pin	Hi-Z	MTIOC0A	—	—	—	TMC13	PO12	POE2#	—	—	SCK6	SCK0	—	—	—	—	—	—	—							
	145/144-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—			
	100-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	
	80-Pin			—	—	—				—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	

Note: \* No 100-pin products have a ROM capacity of 512 KB or less.

Table 2.2.5 Port 5

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
P50	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P51	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P52	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P53	177/176-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P54	177/176-Pin	Hi-Z	MTIOC4B	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC4B	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Hi-Z	MTIOC4B	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P55	177/176-Pin	Hi-Z	MTIOC4D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC4D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Hi-Z	MTIOC4D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P56	177/176-Pin	Hi-Z	MTIOC3C	—	TIOCA1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC3C	—	TIOCA1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
P57	177/176-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 2.2.6 Port 6

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
P60	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P61	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P62	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P63	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P64	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P65	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P66	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P67	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	

Note: \* No products have a ROM capacity of 1 MB or less.



Table 2.2.7 Port 7

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
P70	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P71	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P72	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P73	177/176-Pin	Hi-Z	—	—	—	—	—	—	PO16	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	PO16	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P74	177/176-Pin	Hi-Z	—	—	—	—	—	—	PO19	—	—	—	—	—	CTS11# RTS11 SS11#	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	PO19	—	—	—	—	—	CTS11# RTS11 SS11#	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P75	177/176-Pin	Hi-Z	—	—	—	—	—	—	PO20	—	—	—	—	SCK11	—	—	—	—	
	145/144-Pin	Hi-Z	—	—	—	—	—	—	PO20	—	—	—	—	SCK11	—	—	—	—	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P76	177/176-Pin	Hi-Z	—	—	—	—	—	—	PO22	—	—	—	—	RXD11 SMISO11 SSCL11	—	—	—	—	
	145/144-Pin	Hi-Z	—	—	—	—	—	—	PO22	—	—	—	—	RXD11 SMISO11 SSCL11	—	—	—	—	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P77	177/176-Pin	Hi-Z	—	—	—	—	—	—	PO23	—	—	—	—	TXD11 SMOSI11 SSDA11	—	—	—	—	
	145/144-Pin	Hi-Z	—	—	—	—	—	—	PO23	—	—	—	—	TXD11 SMOSI11 SSDA11	—	—	—	—	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	

Table 2.2.8 Port 8

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
P80	177/176-Pin	Hi-Z	MTIOC3B	—	—	—	—	PO26	—	—	—	SCK10	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC3B	—	—	—	—	PO26	—	—	—	SCK10	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P81	177/176-Pin	Hi-Z	MTIOC3D	—	—	—	—	PO27	—	—	—	RXD10 SMISO10 SSCL10	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC3D	—	—	—	—	PO27	—	—	—	RXD10 SMISO10 SSCL10	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P82	177/176-Pin	Hi-Z	MTIOC4A	—	—	—	—	PO28	—	—	—	TXD10 SMOS10 SSDA10	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC4A	—	—	—	—	PO28	—	—	—	TXD10 SMOS10 SSDA10	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P83	177/176-Pin	Hi-Z	MTIOC4C	—	—	—	—	—	—	—	—	CTS10# RTS10# SS10#	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC4C	—	—	—	—	—	—	—	—	CTS10# RTS10# SS10#	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P84	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P85	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P86	177/176-Pin	Hi-Z	—	—	TIOCA0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	TIOCA0	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
P87	177/176-Pin	Hi-Z	—	—	TIOCA2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	TIOCA2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	

Table 2.2.9 Port 9

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																																
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b															
P90	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TXD7 SMOSI7 SSDA7	—	—	—	—	—	—	—	—	—	—			
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	100-Pin																																	
	80-Pin																																	
P91	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	SCK7	—	—	—	—	—	—	—	—	—	—		
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	100-Pin																																	
	80-Pin																																	
P92	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	RXD7 SMISO7 SSCL7	—	—	—	—	—	—	—	—	—	—	—	
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	100-Pin																																	
	80-Pin																																	
P93	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	CTS7# RTS7# SS7#	—	—	—	—	—	—	—	—	—	—	—	
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	100-Pin																																	
	80-Pin																																	
P94	177/176-Pin																																	
	145/144-Pin																																	
	100-Pin																																	
	80-Pin																																	
P95	177/176-Pin																																	
	145/144-Pin																																	
	100-Pin																																	
	80-Pin																																	
P96	177/176-Pin																																	
	145/144-Pin																																	
	100-Pin																																	
	80-Pin																																	
P97	177/176-Pin																																	
	145/144-Pin																																	
	100-Pin																																	
	80-Pin																																	



Table 2.2.11 Port B

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
PB0	177/176-Pin	Hi-Z	MTIOC5W	—	TIOCA3	—	—	PO24	—	—	—	RXD4 SMISO4 SSCL4	RXD6 SMISO6 SSCL6	—	RSPCKA	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB1	177/176-Pin	Hi-Z	MTIOC0C	MTIOC4C	TIOCB3	—	TMCi0	PO25	—	—	—	TXD4 SMOSI4 SSDA4	TXD6 SMOSI6 SSDA6	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB2	177/176-Pin	Hi-Z	—	—	TIOCC3	TCLKC	—	PO26	—	—	—	CTS4# RTS4# SS4#	CTS6# RTS6# SS6#	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB3	177/176-Pin	Hi-Z	MTIOC0A	MTIOC4A	TIOC3	TCLKD	TMO0	PO27	POE3#	—	—	SCK4	SCK6	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB4	177/176-Pin	Hi-Z	—	—	TIOCA4	—	—	PO28	—	—	—	—	CTS9# RTS9# SS9#	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB5	177/176-Pin	Hi-Z	MTIOC2A	MTIOC1B	TIOCB4	—	TMR1	PO29	POE1#	—	—	—	SCK9	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB6	177/176-Pin	Hi-Z	MTIOC3D	—	TIOCA5	—	—	PO30	—	—	—	RXD9 SMISO9 SSCL9	—	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							
PB7	177/176-Pin	Hi-Z	MTIOC3B	—	TIOCB5	—	—	PO31	—	—	—	TXD9 SMOSI9 SSDA9	—	—	—	—	—	—	—
	145/144-Pin											—							
	100-Pin											—							
	80-Pin											—							

Table 2.2.12 Port C

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
PC0	177/176-Pin	Hi-Z	MTIOC3C	—	TCLKC	—	—	PO17	—	—	—	—	CTS5# RTS5# SS5#	—	SSLA1	—	SCL3	—	—
	145/144-Pin	Hi-Z	MTIOC3C	—	TCLKC	—	—	PO17	—	—	—	—	CTS5# RTS5# SS5#	—	SSLA1	—	SCL3	—	—
	100-Pin	Hi-Z	MTIOC3C	—	TCLKC	—	—	PO17	—	—	—	—	CTS5# RTS5# SS5#	—	SSLA1	—	SCL3	—	—
	80-Pin	Hi-Z	MTIOC3C	—	TCLKC	—	—	PO17	—	—	—	—	CTS5# RTS5# SS5#	—	SSLA1	—	SCL3	—	—
PC1	177/176-Pin	Hi-Z	MTIOC3A	—	TCLKD	—	—	PO18	—	—	—	SCK5	—	—	SSLA2	—	SDA3	—	—
	145/144-Pin	Hi-Z	MTIOC3A	—	TCLKD	—	—	PO18	—	—	—	SCK5	—	—	SSLA2	—	SDA3	—	—
	100-Pin	Hi-Z	MTIOC3A	—	TCLKD	—	—	PO18	—	—	—	SCK5	—	—	SSLA2	—	SDA3	—	—
	80-Pin	Hi-Z	MTIOC3A	—	TCLKD	—	—	PO18	—	—	—	SCK5	—	—	SSLA2	—	SDA3	—	—
PC2	177/176-Pin	Hi-Z	MTIOC4B	—	TCLKA	—	—	PO21	—	—	—	RXD5 SMISO5 SSCL5	—	—	SSLA3	—	—	IERXD	—
	145/144-Pin	Hi-Z	MTIOC4B	—	TCLKA	—	—	PO21	—	—	—	RXD5 SMISO5 SSCL5	—	—	SSLA3	—	—	IERXD	—
	100-Pin	Hi-Z	MTIOC4B	—	TCLKA	—	—	PO21	—	—	—	RXD5 SMISO5 SSCL5	—	—	SSLA3	—	—	IERXD	—
	80-Pin	Hi-Z	MTIOC4B	—	TCLKA	—	—	PO21	—	—	—	RXD5 SMISO5 SSCL5	—	—	SSLA3	—	—	IERXD	—
PC3	177/176-Pin	Hi-Z	MTIOC4D	—	TCLKB	—	—	PO24	—	—	—	TXD5 SMOSI5 SSDA5	—	—	—	—	—	IETXD	—
	145/144-Pin	Hi-Z	MTIOC4D	—	TCLKB	—	—	PO24	—	—	—	TXD5 SMOSI5 SSDA5	—	—	—	—	—	IETXD	—
	100-Pin	Hi-Z	MTIOC4D	—	TCLKB	—	—	PO24	—	—	—	TXD5 SMOSI5 SSDA5	—	—	—	—	—	IETXD	—
	80-Pin	Hi-Z	MTIOC4D	—	TCLKB	—	—	PO24	—	—	—	TXD5 SMOSI5 SSDA5	—	—	—	—	—	IETXD	—
PC4	177/176-Pin	Hi-Z	MTIOC3D	MTCLKC	TIOCC6	TCLKE	—	TMC11	PO25	POE0#	—	—	SCK5	CTS8# RTS8# SS8#	—	SSLA0	—	—	—
	145/144-Pin	Hi-Z	MTIOC3D	MTCLKC	TIOCC6	TCLKE	—	TMC11	PO25	POE0#	—	—	SCK5	CTS8# RTS8# SS8#	—	SSLA0	—	—	—
	100-Pin	Hi-Z	MTIOC3D	MTCLKC	TIOCC6	TCLKE	—	TMC11	PO25	POE0#	—	—	SCK5	CTS8# RTS8# SS8#	—	SSLA0	—	—	—
	80-Pin	Hi-Z	MTIOC3D	MTCLKC	TIOCC6	TCLKE	—	TMC11	PO25	POE0#	—	—	SCK5	CTS8# RTS8# SS8#	—	SSLA0	—	—	—
PC5	177/176-Pin	Hi-Z	MTIOC3B	MTCLKD	TIOCD6	TCLKF	—	TMR12	PO29	—	—	—	SCK8	—	—	RSPCKA	—	—	—
	145/144-Pin	Hi-Z	MTIOC3B	MTCLKD	TIOCD6	TCLKF	—	TMR12	PO29	—	—	—	SCK8	—	—	RSPCKA	—	—	—
	100-Pin	Hi-Z	MTIOC3B	MTCLKD	TIOCD6	TCLKF	—	TMR12	PO29	—	—	—	SCK8	—	—	RSPCKA	—	—	—
	80-Pin	Hi-Z	MTIOC3B	MTCLKD	TIOCD6	TCLKF	—	TMR12	PO29	—	—	—	SCK8	—	—	RSPCKA	—	—	—
PC6	177/176-Pin	Hi-Z	MTIOC3C	MTCLKA	TIOCA6	—	—	TMC12	PO30	—	—	—	RXD8 SMISO8 SSCL8	—	—	MOSIA	—	—	—
	145/144-Pin	Hi-Z	MTIOC3C	MTCLKA	TIOCA6	—	—	TMC12	PO30	—	—	—	RXD8 SMISO8 SSCL8	—	—	MOSIA	—	—	—
	100-Pin	Hi-Z	MTIOC3C	MTCLKA	TIOCA6	—	—	TMC12	PO30	—	—	—	RXD8 SMISO8 SSCL8	—	—	MOSIA	—	—	—
	80-Pin	Hi-Z	MTIOC3C	MTCLKA	TIOCA6	—	—	TMC12	PO30	—	—	—	RXD8 SMISO8 SSCL8	—	—	MOSIA	—	—	—
PC7	177/176-Pin	Hi-Z	MTIOC3A	MTCLKB	TIOCB6	—	—	TMO2	PO31	—	—	—	TXD8 SMOSI8 SSDA8	—	—	MISOA	—	—	—
	145/144-Pin	Hi-Z	MTIOC3A	MTCLKB	TIOCB6	—	—	TMO2	PO31	—	—	—	TXD8 SMOSI8 SSDA8	—	—	MISOA	—	—	—
	100-Pin	Hi-Z	MTIOC3A	MTCLKB	TIOCB6	—	—	TMO2	PO31	—	—	—	TXD8 SMOSI8 SSDA8	—	—	MISOA	—	—	—
	80-Pin	Hi-Z	MTIOC3A	MTCLKB	TIOCB6	—	—	TMO2	PO31	—	—	—	TXD8 SMOSI8 SSDA8	—	—	MISOA	—	—	—

Table 2.2.13 Port D

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
PD0	177/176-Pin	Hi-Z	—	—	TIOCA7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD1	177/176-Pin	Hi-Z	MTIOC4B	—	TIOCB7	TCLKG	—	—	—	—	—	—	—	—	MOSIC	—	—	—	CTX0*
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD2	177/176-Pin	Hi-Z	MTIOC4D	—	TIOCA8	—	—	—	—	—	—	—	—	—	MISOC	—	—	—	CRX0*
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD3	177/176-Pin	Hi-Z	—	—	TIOCB8	TCLKH	—	—	POE8#	—	—	—	—	—	RSPCKC	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD4	177/176-Pin	Hi-Z	—	—	—	—	—	—	POE3#	—	—	—	—	—	SSLC0	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD5	177/176-Pin	Hi-Z	MTIC5W	—	—	—	—	—	POE2#	—	—	—	—	—	SSLC1	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD6	177/176-Pin	Hi-Z	MTIC5V	—	—	—	—	—	POE1#	—	—	—	—	—	SSLC2	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PD7	177/176-Pin	Hi-Z	MTIC5U	—	—	—	—	—	POE0#	—	—	—	—	—	SSLC3	—	—	—	—
	145/144-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note: \* No products have a ROM capacity of 512 KB or less.

Table 2.2.14 Port E

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
PE0	177/176-Pin	Hi-Z	---	---	TIOCC9	---	---	---	---	---	---	---	---	---	SCK12	SSLB1	---	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE1	177/176-Pin	Hi-Z	MTIOC4C	---	TIOC9D	---	---	---	PO18	---	---	---	---	---	TXD12 SMOS12 SSDA12 TXDX12 SIOX12	SSLB2	RSPCKB	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE2	177/176-Pin	Hi-Z	MTIOC4A	---	TIOCA9	---	---	---	PO23	---	---	---	---	---	RXD12 SMISO12 SSCL12 RXDX12	SSLB3	MOSIB	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE3	177/176-Pin	Hi-Z	MTIOC4B	---	TIOCB9	---	---	---	PO26	POE8#	---	---	---	---	CTS12# RTS12# SS12#	MISOB	---	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE4	177/176-Pin	Hi-Z	MTIOC4D	MTIOC1A	TIOCA10	---	---	---	PO28	---	---	---	---	---	---	SSLB0	---	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE5	177/176-Pin	Hi-Z	MTIOC4C	MTIOC2B	TIOCB10	---	---	---	---	---	---	---	---	---	---	RSPCKB	---	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE6	177/176-Pin	Hi-Z	---	---	TIOCA11	---	---	---	---	---	---	---	---	CTS4# RTS4# SS4#	---	MOSIB	---	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														
PE7	177/176-Pin	Hi-Z	---	---	TIOCB11	---	---	---	---	---	---	---	---	---	---	MISOB	---	---	---
	145/144-Pin				---														
	100-Pin				---														
	80-Pin				---														



Table 2.2.15 Port F

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																										
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b									
PF0	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TXD1 SMOSI1 SSDA1	—	—	—	—	—	—	—	—
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF1	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	SCK1	—	—	—	—	—	—	—	—
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF2	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	RXD1 SMISO1 SSCL1	—	—	—	—	—	—	—	—
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF3	177/176-Pin	Pin eliminated																										
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF4	177/176-Pin	Pin eliminated																										
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF5	177/176-Pin	Pin eliminated																										
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF6	177/176-Pin	Pin eliminated																										
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										
PF7	177/176-Pin	Pin eliminated																										
	145/144-Pin	Pin eliminated																										
	100-Pin	Pin eliminated																										
	80-Pin	Pin eliminated																										

Table 2.2.16 Port J

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
PJ0	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PJ1	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PJ2	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PJ3	177/176-Pin	Hi-Z	MTIOC3C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	145/144-Pin	Hi-Z	MTIOC3C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Hi-Z	MTIOC3C	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	80-Pin	Pin eliminated																	
PJ4	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PJ5	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PJ6	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PJ7	177/176-Pin	Pin eliminated																	
	145/144-Pin	Pin eliminated																	
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	

Table 2.2.17 Port K

Port	Pin Count	Setting Value of Bits PSEL4 to PSEL0																	
		00000b	00001b	00010b	00011b	00100b	00101b	00110b	00111b	01000b	01001b	01010b	01011b	01100b	01101b	01110b	01111b	10000b	10001b
PK0	177/176-Pin	Pin eliminated																	
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
PK1	177/176-Pin	Pin eliminated																	
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
PK2	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	TXD9 SMOSI9 SSDA9	—	—	—	—	—	—	—
	145/144-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PK3	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	RXD9 SMISO9 SSCL9	—	—	—	—	—	—	—
	145/144-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PK4	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	RXD4 SMISO4 SSCL4	—	—	—	—	—	—	—
	145/144-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PK5	177/176-Pin	Hi-Z	—	—	—	—	—	—	—	—	—	TXD4 SMOSI4 SSDA4	—	—	—	—	—	—	—
	145/144-Pin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100-Pin	Pin eliminated																	
	80-Pin	Pin eliminated																	
PK6	177/176-Pin	Pin eliminated																	
	145/144-Pin																		
	100-Pin																		
	80-Pin																		
PK7	177/176-Pin	Pin eliminated																	
	145/144-Pin																		
	100-Pin																		
	80-Pin																		

### 3. Reference Documents

User's Manual: Hardware

RX630 Group User's Manual: Hardware Rev.1.50

The latest version can be downloaded from the Renesas Electronics website.

Technical Update/Technical News

The latest information can be downloaded from the Renesas Electronics website.

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<b>REVISION HISTORY</b>	RX630 Group Application Note Differences by Pin Count in MPC Pin Functions
-------------------------	---

Rev.	Date	Description	
		Page	Summary
1.00	Feb. 08, 2013	—	First edition issued

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## General Precautions in the Handling of MPU/MCU Products

The following usage notes are applicable to all MPU/MCU products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

### 1. Handling of Unused Pins

Handle unused pins in accord with the directions given under Handling of Unused Pins in the manual.

- The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.

### 2. Processing at Power-on

The state of the product is undefined at the moment when power is supplied.

- The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.

In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed. In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.

### 3. Prohibition of Access to Reserved Addresses

Access to reserved addresses is prohibited.

- The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.

### 4. Clock Signals

After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.

- When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.

### 5. Differences between Products

Before changing from one product to another, i.e. to a product with a different part number, confirm that the change will not lead to problems.

- The characteristics of an MPU or MCU in the same group but having a different part number may differ in terms of the internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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