RL78/F13, F14

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Settings of port-related registers when using alternate functions

Introduction

The purpose of this application note is to describe the settings of port peripheral functions when the pin functions of the RL78/F13 and RL78/F14 products are used.

In this application note, the products are classified into the following five groups according to the product model, pin count and code flash memory size.

Group A: RL78/F13 (LIN incorporated) products with 20, 30, 32, 48 or 64 pins and 16 Kbytes to 64 Kbytes of code flash memory.
Group B: RL78/F13 (LIN incorporated) products with 48 or 64 pins and 96 Kbytes to 128 Kbytes of code flash memory, or products with 80 pins and 64 Kbytes to 128 Kbytes of code flash memory
Group C: RL78/F13 (CAN and LIN incorporated) products with 30, 32, 48, 64 or 80 pins and 32 Kbytes to 128 Kbytes of code flash memory
Group D: RL78/F14 products with 30, 32, 48, 64 or 80 pins and 48 Kbytes to 96 Kbytes of code flash memory
Group E: RL78/F14 products with 48, 64 or 80 pin and 128 Kbytes to 256 Kbytes of code flash memory, or RL78/F14 products with 100 pins and 64 Kbytes to 256 Kbytes of code flash memory

Contents

1. Product grouping definition

Table 1.1 to **Table 1.5** show the grouping definition for each model. The following tables show the models of each group and tables to refer to the settings of port peripheral functions.

Table 1.1 List of Group A products of RL78/F13 (LIN incorporated)

Pin count	Model	Port peripheral function
64 pins	R5F10ALC, R5F10ALD, R5F10ALE	Table 2.3
48 pins	R5F10AGA, R5F10AGC, R5F10AGD, R5F10AGE	Table 2.4
32 pins	R5F10ABA, R5F10ABC, R5F10ABD, R5F10ABE	Table 2.5
30 pins	R5F10AAA, R5F10AAC, R5F10AAD, R5F10AAE	Table 2.6
20 pins	R5F10A6A, R5F10A6C, R5F10A6D, R5F10A6E	Table 2.7

Table 1.2 List of Group B products of RL78/F13 (LIN incorporated)

Pin count	Model	Port peripheral function
80 pins	R5F10AME, R5F10AMF, R5F10AMG	Table 2.2
64 pins	R5F10ALF, R5F10ALG	Table 2.3
48 pins	R5F10AGF, R5F10AGG	Table 2.4

Table 1.3 List of Group C products of RL78/F13 (CAN and LIN incorporated)

Pin count	Model	Port peripheral function
80 pins	R5F10BME, R5F10BMF, R5F10BMG	Table 2.2
64 pins	R5F10BLC, R5F10BLD, R5F10BLE, R5F10BLF, R5F10BLG	Table 2.3
48 pins	R5F10BGC, R5F10BGD, R5F10BGE, R5F10BGF, R5F10BGG	Table 2.4
32 pins	R5F10BBC, R5F10BBD, R5F10BBE, R5F10BBF, R5F10BBG	Table 2.5
30 pins	R5F10BAC, R5F10BAD, R5F10BAE, R5F10BAF, R5F10BAG	Table 2.6

Table 1.4 List of Group D products of RL78/F14

Pin count	Model	Port peripheral function
80 pins	R5F10PME, R5F10PMF	Table 2.2
64 pins	R5F10PLE, R5F10PLF	Table 2.3
48 pins	R5F10PGD, R5F10PGE, R5F10PGF	Table 2.4
32 pins	R5F10PBD, R5F10PBE	Table 2.5
30 pins	R5F10PAD, R5F10PAE	Table 2.6

Table 1.5 List of Group E product of RL78/F14

Pin count	Model	Port peripheral function
100 pins	R5F10PPE, R5F10PPF, R5F10PPG, R5F10PPH, R5F10PPJ	Table 2.1
80 pins	R5F10PMG, R5F10PMH, R5F10PMJ	Table 2.2
64 pins	R5F10PLG, R5F10PLH, R5F10PLJ	Table 2.3
48 pins	R5F10PGG, R5F10PGH, R5F10PGJ	Table 2.4

2. Port peripheral function settings for RL78/F13 and F14

The following sections **2.1** to **2.7** describe the settings of port-related registers (port mode registers or output latches) when port pins of the RL78/F13 and F14 microcontrollers are used as an alternate-function pin. The settings are described according to the number of pins included.

2.1 Port peripheral function settings for RL78/F14 (100-pin products)

Table 2.1 Port peripheral function settings for RL78/F14 (100 pins) (1/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product Group				
	Function name	I/O								A	B	C	D	E
P00	(TI05)	Input	1	-	-	1	×	-	-					✓
	(TO05)	Output	1	-	-	0	0	-	-					✓
	INTP9	Input	0	-	-	1	×	-	-					✓
P01	(TI04)	Input	1	-	-	1	×	-	-					✓
	(TO04)	Output	1	-	-	0	0	-	-					✓
P02	(TI06)	Input	1	-	-	1	×	-	-					✓
	(TO06)	Output	1	-	-	0	0	-	-					✓
P03	(RTC1HZ)	Output	1	-	-	0	0	-	-					✓
P10	TI13	Input	0	×	-	1	×	0	0/1					✓
	TO13	Output	0	0	-	0	0	×	×					✓
	TRJO0	Output	×	0	-	0	0	×	×					✓
	$\overline{SCK10}$	Input	0	×	-	1	×	0/1	0/1					✓
		Output	0	0/1	-	0	1	×	×					✓
	SCL10	Output	0	0/1	-	0	1	×	×					✓
	LTXD1	Output	0	0	-	0	1	×	×					✓
	CTXD0	Output	0	0	-	0	1	×	×					✓
P11	TI12	Input	0	×	-	1	×	0	0/1					✓
	TO12	Output	0	0	-	0	0	×	×					✓
	(TRDIOB0)	Input	1	×	-	1	×	0	0/1					✓
		Output	1	0	-	0	0	×	×					✓
	SI10	Input	0	×	-	1	×	0/1	0/1					✓
	SDA10	I/O	0	1	-	0	1	0/1	0/1					✓
	RXD1	Input	0	×	-	1	×	0/1	0/1					✓
	LRXD1	Input	0	×	-	1	×	0	0/1					✓
	CRXD0	Input	0	×	-	1	×	0	0/1					✓
P12	TI11	Input	0	×	-	1	×	-	-					✓
	TO11	Output	0	0	-	0	0	-	-					✓
	(TRDIOD0)	Input	1	×	-	1	×	-	-					✓
		Output	1	0	-	0	0	-	-					✓
	SO10	Output	0	0/1	-	0	1	-	-					✓
	TXD1	Output	0	0/1	-	0	1	-	-					✓
	INTP5	Input	×	×	-	1	×	-	-					✓
	SNZOUT3	Output	0	0	-	0	0	-	-					✓

Table 2-1 Port peripheral function settings for RL78/F14 (100 pins) (2/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P13	TI04	Input	0	×	-	1	×	0	0/1					✓
	TO04	Output	0	0	-	0	0	×	×					✓
	TRDIOA0	Input	0	×	-	1	×	0	0/1					✓
		Output	0	0	-	0	0	×	×					✓
	TRDCLK0	Input	0	×	-	1	×	0	0/1					✓
	SI01	Input	0	×	-	1	×	0/1	0/1					✓
	SDA01	I/O	0	1	-	0	1	0/1	0/1					✓
	LTXD0	Output	0	0	-	0	1	×	×					✓
P14	TI06	Input	0	×	-	1	×	0	0/1					✓
	TO06	Output	0	0	-	0	0	×	×					✓
	TRDIOC0	Input	×	×	-	1	×	0	0/1					✓
		Output	×	0	-	0	0	×	×					✓
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1					✓
		Output	0	0/1	-	0	1	×	×					✓
	SCL01	Output	0	0/1	-	0	1	×	×					✓
	LRXD0	Input	0	×	-	1	×	0	0/1					✓
P15	TI05	Input	0	×	-	1	×	-	-					✓
	TO05	Output	0	0	-	0	0	-	-					✓
	TRDIOA1	Input	×	×	-	1	×	-	-					✓
		Output	×	0	-	0	0	-	-					✓
	(TRDIOA0)	Input	1	×	-	1	×	-	-					✓
		Output	1	0	-	0	0	-	-					✓
	(TRDCLK0)	Input	1	×	-	1	×	-	-					✓
	SO00	Output	0	0/1	-	0	1	-	-					✓
	TXD0	Output	0	0/1	-	0	1	-	-					✓
	RTC1HZ	Output	0	0	-	0	0	-	-					✓
P16	TI02	Input	0	×	-	1	×	0	0/1					✓
	TO02	Output	0	0	-	0	0	×	×					✓
	TRDIOC1	Input	×	×	-	1	×	0	0/1					✓
		Output	×	0	-	0	0	×	×					✓
	SI00	Input	0	×	-	1	×	0/1	0/1					✓
	SDA00	I/O	0	1	-	0	1	0/1	0/1					✓
	RXD0	Input	0	×	-	1	×	0/1	0/1					✓
P17	TI00	Input	0	×	-	1	×	0	0/1					✓
	TO00	Output	0	0	-	0	0	×	×					✓
	TRDIOB1	Input	×	×	-	1	×	0	0/1					✓
		Output	×	0	-	0	0	×	×					✓
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1					✓
		Output	0	0/1	-	0	1	×	×					✓
	SCL00	Output	0	0/1	-	0	1	×	×					✓
	INTP3	Input	0	×	-	1	×	0	0/1					✓

Table 2-1 Port peripheral function settings for RL78/F14 (100 pins) (3/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P30	TI01	Input	0	-	-	1	×	0	0/1					✓
	TO01	Output	0	-	-	0	0	×	×					✓
	TRDIOD1	Input	×	-	-	1	×	0	0/1					✓
		Output	×	-	-	0	0	×	×					✓
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1					✓
	INTP2	Input	0	-	-	1	×	0	0/1					✓
	SNZOUT0	Output	0	-	-	0	0	×	×					✓
P31	TI14	Input	0	-	-	1	×	-	-					✓
	TO14	Output	0	-	-	0	0	-	-					✓
	(INTP2)	Input	1	-	-	1	×	-	-					✓
	STOPST	Output	×	-	-	0	0	-	-					✓
P32	TI16	Input	0	-	-	1	×	-	-					✓
	TO16	Output	0	-	-	0	0	-	-					✓
	INTP7	Input	0	-	-	1	×	-	-					✓
P33	ANI0	Input	×	-	-	1	×	-	-					✓
	AV_{REFP}	Input	×	-	-	1	×	-	-					✓
P34	ANI1	Input	×	-	-	1	×	-	-					✓
	AV_{REFM}	Input	×	-	-	1	×	-	-					✓
P40	TOOL0	I/O	×	-	-	×	×	-	-					✓
P41	TI10	Input	0	-	-	1	×	-	-					✓
	TO10	Output	0	-	-	0	0	-	-					✓
	TRJIO0	Input	×	-	-	1	×	-	-					✓
		Output	×	-	-	0	0	-	-					✓
	VCOUT0	Output	×	-	-	0	0	-	-					✓
	SNZOUT2	Output	0	-	-	0	0	-	-					✓
P42	(LTXD0)	Output	1	-	-	0	1	-	-					✓
P43	(LRXD0)	Input	1	-	-	1	×	-	0/1					✓
P44	(TI07)	Input	1	-	-	1	×	-	-					✓
	(TO07)	Output	1	-	-	0	0	-	-					✓
P45	(TI10)	Input	1	-	-	1	×	-	-					✓
	(TO10)	Output	1	-	-	0	0	-	-					✓
P46	(TI12)	Input	1	-	-	1	×	-	-					✓
	(TO12)	Output	1	-	-	0	0	-	-					✓
P47	INTP13	Input	×	-	-	1	×	-	-					✓
P50	($\overline{SSI01}$)	Input	1	-	-	1	×	-	0/1					✓
	(INTP3)	Input	1	-	-	1	×	-	0/1					✓
P51	(SO01)	Output	1	-	-	0	1	-	-					✓
	INTP11	Input	×	-	-	1	×	-	-					✓
P52	($\overline{SCK01}$)	Input	1	-	-	1	×	-	0/1					✓
		Output	1	-	-	0	1	-	×					✓
	(STOPST)	Output	×	-	-	0	0	-	0/1					✓
P53	(SI01)	Input	1	-	-	1	×	-	0/1					✓
	INTP10	Input	×	-	-	1	×	-	0/1					✓

Table 2-1 Port peripheral function settings for RL78/F14 (100 pins) (4/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P54	(TI11)	Input	1	-	-	1	×	0	0/1					✓
	(TO11)	Output	1	-	-	0	0	×	×					✓
	$\overline{\text{SSI10}}$	Input	×	-	-	1	×	0/1	0/1					✓
P55	(TI13)	Input	1	-	-	1	×	-	-					✓
	(TO13)	Output	1	-	-	0	0	-	-					✓
P56	(TI15)	Input	1	-	-	1	×	-	-					✓
	(TO15)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT1)	Output	1	-	-	0	0	-	-					✓
P57	(TI17)	Input	1	-	-	1	×	-	-					✓
	(TO17)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT0)	Output	1	-	-	0	0	-	-					✓
P60	($\overline{\text{SCK00}}$)	Input	1	×	-	1	×	-	0/1					✓
		Output	1	0	-	0	1	-	×					✓
	(SCL00)	Output	1	0/1	-	0	1	-	×					✓
P61	(SI00)	Input	1	×	-	1	×	-	0/1					✓
	(SDA00)	I/O	1	1	-	0	1	-	0/1					✓
	(RXD0)	Input	1	×	-	1	×	-	0/1					✓
P62	(SO00)	Output	1	0	-	0	1	×	×					✓
	(TXD0)	Output	1	0	-	0	1	×	×					✓
	SCLA0	I/O	×	1	-	0	0	0/1	0/1					✓
P63	($\overline{\text{SSI00}}$)	Input	1	×	-	1	×	0	0/1					✓
	SDAA0	I/O	×	1	-	0	0	0/1	0/1					✓
P64	(TI14)	Input	1	-	-	1	×	-	-					✓
	(TO14)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT3)	Output	1	-	-	0	0	-	-					✓
P65	(TI16)	Input	1	-	-	1	×	-	-					✓
	(TO16)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT2)	Output	1	-	-	0	0	-	-					✓
P66	(TI00)	Input	1	-	-	1	×	-	-					✓
	(TO00)	Output	1	-	-	0	0	-	-					✓
P67	(TI02)	Input	1	-	-	1	×	-	-					✓
	(TO02)	Output	1	-	-	0	0	-	-					✓
P70	ANI26	Input	×	×	1	1	×	×	×					✓
	TI15	Input	0	×	0	1	×	0	0/1					✓
	TO15	Output	0	0	0	0	0	×	×					✓
	SI11	Input	0	×	0	1	×	0/1	0/1					✓
	SDA11	I/O	0	1	0	0	1	0/1	0/1					✓
	INTP8	Input	×	×	0	1	×	0	0/1					✓
	KR0	Input	0	×	0	1	×	0	0/1					✓
	SNZOUT4	Output	0	0	0	0	0	×	×					✓

Table 2-1 Port peripheral function settings for RL78/F14 (100 pins) (5/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P71	ANI27	Input	×	×	1	1	×	×	×					✓
	TI17	Input	0	×	0	1	×	0	0/1					✓
	TO17	Output	0	0	0	0	0	×	×					✓
	$\overline{SCK11}$	Input	0	×	0	1	×	0/1	0/1					✓
		Output	0	0/1	0	0	1	×	×					✓
	SCL11	Output	0	0/1	0	0	1	×	×					✓
	INTP6	Input	×	×	0	1	×	0	0/1					✓
	KR1	Input	0	×	0	1	×	0	0/1					✓
	SNZOUT5	Output	0	0	0	0	0	×	×					✓
P72	ANI28	Input	×	×	1	1	×	-	-					✓
	SO11	Output	0	0/1	0	0	1	-	-					✓
	(CTXD0)	Output	1	0	0	0	1	-	-					✓
	KR2	Input	0	×	0	1	×	-	-					✓
	SNZOUT6	Output	0	0	0	0	0	-	-					✓
P73	ANI29	Input	×	-	1	1	×	×	×					✓
	$\overline{SSI11}$	Input	0	-	0	1	×	0/1	0/1					✓
	(CRXD0)	Input	1	-	0	1	×	0	0/1					✓
	KR3	Input	0	-	0	1	×	0	0/1					✓
	SNZOUT7	Output	0	-	0	0	0	×	×					✓
P74	ANI30	Input	×	-	1	1	×	-	-					✓
	(SO10)	Output	1	-	0	0	1	-	-					✓
	(TXD1)	Output	1	-	0	0	1	-	-					✓
	KR4	Input	0	-	0	1	×	-	-					✓
P75	(SI10)	Input	1	-	-	1	×	-	0/1					✓
	(RXD1)	Input	1	-	-	1	×	-	0/1					✓
	KR5	Input	0	-	-	1	×	-	0/1					✓
P76	($\overline{SCK10}$)	Input	1	-	-	1	×	-	0/1					✓
		Output	1	-	-	0	1	-	×					✓
	KR6	Input	0	-	-	1	×	-	0/1					✓
P77	($\overline{SSI10}$)	Input	1	-	-	1	×	-	0/1					✓
	INTP12	Input	×	-	-	1	×	-	0/1					✓
	KR7	Input	0	-	-	1	×	-	0/1					✓
P80	ANI2	Input	×	-	-	1	×	-	-					✓
	ANO0	Output	×	-	-	1	×	-	-					✓
P81	ANI3	Input	×	-	-	1	×	-	-					✓
	IVCMP00	Input	×	-	-	1	×	-	-					✓
P82	ANI4	Input	×	-	-	1	×	-	-					✓
	IVCMP01	Input	×	-	-	1	×	-	-					✓
P83	ANI5	Input	×	-	-	1	×	-	-					✓
	IVCMP02	Input	×	-	-	1	×	-	-					✓
P84	ANI6	Input	×	-	-	1	×	-	-					✓
	IVCMP03	Input	×	-	-	1	×	-	-					✓
P85	ANI7	Input	×	-	-	1	×	-	-					✓
	IVREF0	Input	×	-	-	1	×	-	-					✓

Table 2-1 Port peripheral function settings for RL78/F14 (100 pins) (6/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P86	ANI8	Input	×	-	-	1	×	-	-					✓
P87	ANI9	Input	×	-	-	1	×	-	-					✓
P90	ANI10	Input	×	-	-	1	×	-	-					✓
P91	ANI11	Input	×	-	-	1	×	-	-					✓
P92	ANI12	Input	×	-	-	1	×	-	-					✓
P93	ANI13	Input	×	-	-	1	×	-	-					✓
P94	ANI14	Input	×	-	-	1	×	-	-					✓
P95	ANI15	Input	×	-	-	1	×	-	-					✓
P96	ANI16	Input	×	-	-	1	×	-	-					✓
P97	ANI17	Input	×	-	-	1	×	-	-					✓
P100	ANI18	Input	×	-	-	1	×	-	-					✓
P101	ANI19	Input	×	-	-	1	×	-	-					✓
P102	ANI20	Input	×	-	-	1	×	-	-					✓
P103	ANI21	Input	×	-	-	1	×	-	-					✓
P104	ANI22	Input	×	-	-	1	×	-	-					✓
P105	ANI23	Input	×	-	-	1	×	-	-					✓
P106	(LTXD1)	Output	1	-	-	0	1	-	-					✓
P107	(LRXD1)	Input	1	-	-	1	×	-	-					✓
P120	ANI25	Input	×	×	1	1	×	-	-					✓
	TI07	Input	0	×	0	1	×	-	-					✓
	TO07	Output	0	0	0	0	0	-	-					✓
	TRDIOD0	Input	0	×	0	1	×	-	-					✓
		Output	0	0	0	0	0	-	-					✓
	SO01	Output	0	0/1	0	0	1	-	-					✓
	INTP4	Input	×	×	0	1	×	-	-					✓
P121	-	-	-	-	-	-	-	-	-					✓
P122	-	-	-	-	-	-	-	-	-					✓
P123	-	-	-	-	-	-	-	-	-					✓
P124	-	-	-	-	-	-	-	-	-					✓
P125	ANI24	Input	×	-	1	1	×	×	×					✓
	TI03	Input	0	-	0	1	×	0	0/1					✓
	TO03	Output	0	-	0	0	0	×	×					✓
	TRDIOB0	Input	0	-	0	1	×	0	0/1					✓
		Output	0	-	0	0	0	×	×					✓
	$\overline{SSI01}$	Input	0	-	0	1	×	0/1	0/1					✓
	INTP1	Input	×	-	0	1	×	0	0/1					✓
	SNZOUT1	Output	0	-	0	0	0	×	×					✓
P126	(TI01)	Input	1	-	-	1	×	-	-					✓
	(TO01)	Output	1	-	-	0	0	-	-					✓
P127	(TI03)	Input	1	-	-	1	×	-	-					✓
	(TO03)	Output	1	-	-	0	0	-	-					✓
P130	RESOUT	Output	×	-	-	-	0	-	-					✓
P137	INTP0	Input	×	-	-	-	×	-	-					✓

Table 2-1 Port peripheral function settings for RL78/F14 (100 pins) (7/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P140	PCLBUZ0	Output	×	-	-	0	0	-	-					✓
P150	(SSI11)	Input	1	-	-	1	×	-	0/1					✓
P151	(SO11)	Output	1	-	-	0	1	-	×					✓
P152	(SI11)	Input	1	-	-	1	×	-	0/1					✓
P153	(SCK11)	Input	1	-	-	1	×	-	0/1					✓
		Output	1	-	-	0	1	-	×					✓
P154	(SNZOUT7)	Output	1	-	-	0	0	-	×					✓
P155	(SNZOUT6)	Output	1	-	-	0	0	-	×					✓
P156	(SNZOUT5)	Output	1	-	-	0	0	-	×					✓
P157	(SNZOUT4)	Output	1	-	-	0	0	-	×					✓

Remark 1. × : don't care
PIORxx: Bits in peripheral I/O redirection registers
POMxx: Bits in port output mode registers
PMCxx: Bits in port mode control registers
PMxx: Bits in port mode registers
Pxx: Bits in port registers
PIMxx: Bits in port input mode registers
PITHLxx: Bits in port input threshold control register

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection registers (PIORx) and STOP status output control registers (STPSTC).

Remark 3. To use each function of analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI23) assigned to P33, P34, P80 to P87, P90 to P97, and P100 to P105, D/A converter output (ANO0), comparator I/O (VCOUT0, IVCMP00 to IVCMP03, IVREF0), select analog input with the A/D port configuration register (ADPC).

2.2 Port peripheral function settings for RL/F13 and F14 (80-pin products)

Table 2.2 Port peripheral function settings for 80-pin products (1/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P00	(TI05)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO05)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
	INTP9	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
P01	(TI04)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO04)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P02	(TI06)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO06)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P10	TI13	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO13	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRJO0	Output	×	0	-	0	0	×	×		✓	✓	✓	✓
	$\overline{SCK10}$	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	SCL10	Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	LTXD1	Output	0	0	-	0	1	×	×					✓
	CTXD0	Output	0	0	-	0	1	×	×			✓	✓	✓
P11	TI12	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO12	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	(TRDIOB0)	Input	1	×	-	1	×	0	0/1		✓	✓	✓	✓
		Output	1	0	-	0	0	×	×		✓	✓	✓	✓
	SI10	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	SDA10	I/O	0	1	-	0	1	0/1	0/1		✓	✓	✓	✓
	RXD1	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	LRXD1	Input	0	×	-	1	×	0	0/1					✓
	CRXD0	Input	0	×	-	1	×	0	0/1			✓	✓	✓
P12	TI11	Input	0	×	-	1	×	-	-		✓	✓	✓	✓
	TO11	Output	0	0	-	0	0	-	-		✓	✓	✓	✓
	(TRDIOD0)	Input	1	×	-	1	×	-	-		✓	✓	✓	✓
		Output	1	0	-	0	0	-	-		✓	✓	✓	✓
	SO10	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	TXD1	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	INTP5	Input	×	×	-	1	×	-	-		✓	✓	✓	✓
	SNZOUT3	Output	0	0	-	0	0	-	-		✓	✓	✓	✓
P13	TI04	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO04	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRDIOA0	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
		Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRDCLK0	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	SI01	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	SDA01	I/O	0	1	-	0	1	0/1	0/1		✓	✓	✓	✓
	LTXD0	Output	0	0	-	0	1	×	×		✓	✓	✓	✓

Table 2-2 Port peripheral function settings for 80-pin products (2/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P14	TI06	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO06	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRDIOC0	Input	×	×	-	1	×	0	0/1		✓	✓	✓	✓
		Output	×	0	-	0	0	×	×		✓	✓	✓	✓
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	SCL01	Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	LRXD0	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
P15	TI05	Input	0	×	-	1	×	-	-		✓	✓	✓	✓
	TO05	Output	0	0	-	0	0	-	-		✓	✓	✓	✓
	TRDIOA1	Input	×	×	-	1	×	-	-		✓	✓	✓	✓
		Output	×	0	-	0	0	-	-		✓	✓	✓	✓
	(TRDIOA0)	Input	1	×	-	1	×	-	-		✓	✓	✓	✓
		Output	1	0	-	0	0	-	-		✓	✓	✓	✓
	(TRDCLK0)	Input	1	×	-	1	×	-	-		✓	✓	✓	✓
	SO00	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	TXD0	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	RTC1HZ	Output	0	0	-	0	0	-	-		✓	✓	✓	✓
P16	TI02	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO02	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRDIOC1	Input	×	×	-	1	×	0	0/1		✓	✓	✓	✓
		Output	×	0	-	0	0	×	×		✓	✓	✓	✓
	SI00	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	SDA00	I/O	0	1	-	0	1	0/1	0/1		✓	✓	✓	✓
	RXD0	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
P17	TI00	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO00	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRDIOB1	Input	×	×	-	1	×	0	0/1		✓	✓	✓	✓
		Output	×	0	-	0	0	×	×		✓	✓	✓	✓
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	SCL00	Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	INTP3	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
P30	TI01	Input	0	-	-	1	×	0	0/1		✓	✓	✓	✓
	TO01	Output	0	-	-	0	0	×	×		✓	✓	✓	✓
	TRDIOD1	Input	×	-	-	1	×	0	0/1		✓	✓	✓	✓
		Output	×	-	-	0	0	×	×		✓	✓	✓	✓
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1		✓	✓	✓	✓
	INTP2	Input	0	-	-	1	×	0	0/1		✓	✓	✓	✓
	SNZOUT0	Output	0	-	-	0	0	×	×		✓	✓	✓	✓
P31	TI14	Input	0	-	-	1	×	-	-					✓
	TO14	Output	0	-	-	0	0	-	-					✓
	(INTP2)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	STOPST	Output	×	-	-	0	0	-	-		✓	✓	✓	✓

Table 2-2 Port peripheral function settings for 80-pin products (3/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P32	TI16	Input	0	-	-	1	×	-	-					✓
	TO16	Output	0	-	-	0	0	-	-					✓
	INTP7	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
P33	ANI0	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	AV_{REFP}	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P34	ANI1	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	AV_{REFM}	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P40	TOOL0	I/O	×	-	-	×	×	-	-		✓	✓	✓	✓
P41	TI10	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
	TO10	Output	0	-	-	0	0	-	-		✓	✓	✓	✓
	TRJIO0	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
		Output	×	-	-	0	0	-	-		✓	✓	✓	✓
	VCOUT0	Output	×	-	-	0	0	-	-				✓	✓
	SNZOUT2	Output	0	-	-	0	0	-	-		✓	✓	✓	✓
P42	(LTXD0)	Output	1	-	-	0	1	-	-		✓	✓	✓	✓
P43	(LRXD0)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
P44	(TI07)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO07)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P45	(TI10)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO10)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P46	(TI12)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO12)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P47	INTP13	Input	×	-	-	1	×	-	-					✓
P50	($\overline{SSI01}$)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	(INTP3)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
P51	(SO01)	Output	1	-	-	0	1	-	-		✓	✓	✓	✓
	INTP11	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P52	($\overline{SCK01}$)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
		Output	1	-	-	0	1	-	×		✓	✓	✓	✓
	(STOPST)	Output	×	-	-	0	0	-	0/1		✓	✓	✓	✓
P53	(SI01)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	INTP10	Input	×	-	-	1	×	-	0/1		✓	✓	✓	✓
P54	(TI11)	Input	1	-	-	1	×	0	0/1		✓	✓	✓	✓
	(TO11)	Output	1	-	-	0	0	×	×		✓	✓	✓	✓
	$\overline{SSI10}$	Input	×	-	-	1	×	0/1	0/1		✓	✓	✓	✓
P55	(TI13)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO13)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P56	(TI15)	Input	1	-	-	1	×	-	-					✓
	(TO15)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT1)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P57	(TI17)	Input	1	-	-	1	×	-	-					✓
	(TO17)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT0)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓

Table 2-2 Port peripheral function settings for 80-pin products (4/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P60	(SCK00)	Input	1	×	-	1	×	-	0/1		✓	✓	✓	✓
		Output	1	0	-	0	1	-	×		✓	✓	✓	✓
	(SCL00)	Output	1	0/1	-	0	1	-	×		✓	✓	✓	✓
P61	(SI00)	Input	1	×	-	1	×	-	0/1		✓	✓	✓	✓
	(SDA00)	I/O	1	1	-	0	1	-	0/1		✓	✓	✓	✓
	(RXD0)	Input	1	×	-	1	×	-	0/1		✓	✓	✓	✓
P62	(SO00)	Output	1	0	-	0	1	×	×		✓	✓	✓	✓
	(TXD0)	Output	1	0	-	0	1	×	×		✓	✓	✓	✓
	SCLA0	I/O	×	1	-	0	0	0/1	0/1		✓	✓	✓	✓
P63	(SSI00)	Input	1	×	-	1	×	0	0/1		✓	✓	✓	✓
	SDAA0	I/O	×	1	-	0	0	0/1	0/1		✓	✓	✓	✓
P64	(TI14)	Input	1	-	-	1	×	-	-					✓
	(TO14)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT3)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P65	(TI16)	Input	1	-	-	1	×	-	-					✓
	(TO16)	Output	1	-	-	0	0	-	-					✓
	(SNZOUT2)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P66	(TI00)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO00)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P67	(TI02)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO02)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P70	ANI26	Input	×	×	1	1	×	×	×					✓
	TI15	Input	0	×	0	1	×	0	0/1					✓
	TO15	Output	0	0	0	0	0	×	×					✓
	SI11	Input	0	×	0	1	×	0/1	0/1					✓
			0	×	-	1	×	0/1	0/1		✓	✓	✓	
	SDA11	I/O	0	1	0	0	1	0/1	0/1					✓
			0	1	-	0	1	0/1	0/1		✓	✓	✓	
	INTP8	Input	×	×	0	1	×	0	0/1					✓
			×	×	-	1	×	0	0/1		✓	✓	✓	
	KR0	Input	0	×	0	1	×	0	0/1					✓
			0	×	-	1	×	0	0/1		✓	✓	✓	
	SNZOUT4	Output	0	0	0	0	0	×	×					✓
			0	0	-	0	0	×	×		✓	✓	✓	

Table 2-2 Port peripheral function settings for 80-pin products (5/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P71	ANI27	Input	×	×	1	1	×	×	×					✓
	TI17	Input	0	×	0	1	×	0	0/1					✓
	TO17	Output	0	0	0	0	0	×	×					✓
	$\overline{SCK11}$	Input	0	×	0	1	×	0/1	0/1					✓
			0	×	-	1	×	0/1	0/1		✓	✓	✓	
		Output	0	0/1	0	0	1	×	×					✓
			0	0/1	-	0	1	×	×		✓	✓	✓	
	SCL11	Output	0	0/1	0	0	1	×	×					✓
			0	0/1	-	0	1	×	×		✓	✓	✓	
	INTP6	Input	×	×	0	1	×	0	0/1					✓
			×	×	-	1	×	0	0/1		✓	✓	✓	
	KR1	Input	0	×	0	1	×	0	0/1					✓
			0	×	-	1	×	0	0/1		✓	✓	✓	
	SNZOUT5	Output	0	0	0	0	0	×	×					✓
			0	0	-	0	0	×	×		✓	✓	✓	
P72	ANI28	Input	×	×	1	1	×	-	-					✓
	SO11	Output	0	0/1	0	0	1	-	-					✓
			0	0/1	-	0	1	-	-		✓	✓	✓	
	(CTXD0)	Output	1	0	0	0	1	-	-					✓
			1	0	-	0	1	-	-			✓	✓	
	KR2	Input	0	×	0	1	×	-	-					✓
			0	×	-	1	×	-	-		✓	✓	✓	
	SNZOUT6	Output	0	0	0	0	0	-	-					✓
			0	0	-	0	0	-	-		✓	✓	✓	
P73	ANI29	Input	×	-	1	1	×	×	×					✓
	$\overline{SSI11}$	Input	0	-	0	1	×	0/1	0/1					✓
			0	-	-	1	×	0/1	0/1		✓	✓	✓	
	(CRXD0)	Input	1	-	0	1	×	0	0/1					✓
			1	-	-	1	×	0	0/1			✓	✓	
	KR3	Input	0	-	0	1	×	0	0/1					✓
			0	-	-	1	×	0	0/1		✓	✓	✓	
	SNZOUT7	Output	0	-	0	0	0	×	×					✓
			0	-	-	0	0	×	×		✓	✓	✓	
P74	ANI30	Input	×	-	1	1	×	-	-					✓
	(SO10)	Output	1	-	0	0	1	-	-					✓
			1	-	-	0	1	-	-		✓	✓	✓	
	(TXD1)	Output	1	-	0	0	1	-	-					✓
			1	-	-	0	1	-	-		✓	✓	✓	
	KR4	Input	0	-	0	1	×	-	-					✓
			0	-	-	1	×	-	-		✓	✓	✓	
P75	(SI10)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	(RXD1)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	KR5	Input	0	-	-	1	×	-	0/1		✓	✓	✓	✓

Table 2-2 Port peripheral function settings for 80-pin products (6/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P76	(SCK10)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
		Output	1	-	-	0	1	-	×		✓	✓	✓	✓
	KR6	Input	0	-	-	1	×	-	0/1		✓	✓	✓	✓
P77	(SSI10)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	INTP12	Input	×	-	-	1	×	-	0/1					✓
	KR7	Input	0	-	-	1	×	-	0/1		✓	✓	✓	✓
P80	ANI2	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	ANO0	Output	×	-	-	1	×	-	-				✓	✓
P81	ANI3	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	IVCMP00	Input	×	-	-	1	×	-	-				✓	✓
P82	ANI4	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	IVCMP01	Input	×	-	-	1	×	-	-				✓	✓
P83	ANI5	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	IVCMP02	Input	×	-	-	1	×	-	-				✓	✓
P84	ANI6	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	IVCMP03	Input	×	-	-	1	×	-	-				✓	✓
P85	ANI7	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	IVREF0	Input	×	-	-	1	×	-	-				✓	✓
P86	ANI8	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P87	ANI9	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P90	ANI10	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P91	ANI11	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P92	ANI12	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P93	ANI13	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P94	ANI14	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P95	ANI15	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P96	ANI16	Input	×	-	-	1	×	-	-					✓
	ANI26	Input	×	-	1	1	×	-	-		✓	✓	✓	
P97	ANI17	Input	×	-	-	1	×	-	-					✓
	ANI27	Input	×	-	1	1	×	-	-		✓	✓	✓	
P120	ANI25	Input	×	×	1	1	×	-	-		✓	✓	✓	✓
	TI07	Input	0	×	0	1	×	-	-		✓	✓	✓	✓
	TO07	Output	0	0	0	0	0	-	-		✓	✓	✓	✓
	TRDIOD0	Input	0	×	0	1	×	-	-		✓	✓	✓	✓
		Output	0	0	0	0	0	-	-		✓	✓	✓	✓
	SO01	Output	0	0/1	0	0	1	-	-		✓	✓	✓	✓
	INTP4	Input	×	×	0	1	×	-	-		✓	✓	✓	✓
P121	-	-	-	-	-	-	-	-	-		✓	✓	✓	✓
P122	-	-	-	-	-	-	-	-	-		✓	✓	✓	✓
P123	-	-	-	-	-	-	-	-	-		✓	✓	✓	✓
P124	-	-	-	-	-	-	-	-	-		✓	✓	✓	✓

Table 2-2 Port peripheral function settings for 80-pin products (7/7)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P125	ANI24	Input	×	-	1	1	×	×	×		✓	✓	✓	✓
	TI03	Input	0	-	0	1	×	0	0/1		✓	✓	✓	✓
	TO03	Output	0	-	0	0	0	×	×		✓	✓	✓	✓
	TRDIOB0	Input	0	-	0	1	×	0	0/1		✓	✓	✓	✓
		Output	0	-	0	0	0	×	×		✓	✓	✓	✓
	$\overline{SSI01}$	Input	0	-	0	1	×	0/1	0/1		✓	✓	✓	✓
	INTP1	Input	×	-	0	1	×	0	0/1		✓	✓	✓	✓
	SNZOUT1	Output	0	-	0	0	0	×	×		✓	✓	✓	✓
P126	(TI01)	Input	1	-	-	1	×	-	-		✓	✓	✓	✓
	(TO01)	Output	1	-	-	0	0	-	-		✓	✓	✓	✓
P130	RESOUT	Output	×	-	-	-	0	-	-		✓	✓	✓	✓
P137	INTP0	Input	×	-	-	-	×	-	-		✓	✓	✓	✓
P140	PCLBUZ0	Output	×	-	-	0	0	-	-		✓	✓	✓	✓

Remark 1. ×: don't care
PIORxx : Bits in peripheral I/O redirection registers
POMxx : Bits in port output mode registers
PMCxx : Bits in port mode control registers
PMxx : Bits in port mode registers
Pxx : Bits in port registers
PIMxx : Bits in port input mode registers
PITHLxx : Bits in port input threshold control registers

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection registers (PIORx) and STOP status control registers (STPSTC).

Remark 3. To use each function of analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI17) assigned to P33, P34, P80 to P87, and P90 to P97, D/A converter output (ANO0), and comparator I/O (VCOUT0, IVCMP00 to IVCMP03, IVREF0), select analog inputs by the A/D port configuration register (ADPC).

2.3 Port peripheral function settings for RL78/F13 and F14 (64-pin products)

Table 2.3 Port peripheral function settings for 64-pin products (1/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P00	(TI05)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(TO05)	Output	1	-	-	0	0	-	-	✓	✓	✓	✓	✓
	INTP9	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
P10	TI13	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO13	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRJO0	Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SCK10}$	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	SCL10	Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	LTXD1	Output	0	0	-	0	1	×	×					✓
	CTXD0	Output	0	0	-	0	1	×	×			✓	✓	✓
P11	TI12	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO12	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	(TRDIOB0)	Input	1	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	1	0	-	0	0	×	×	✓	✓	✓	✓	✓
	SI10	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	SDA10	I/O	0	1	-	0	1	0/1	0/1		✓	✓	✓	✓
	RXD1	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	LRXD1	Input	0	×	-	1	×	0	0/1					✓
	CRXD0	Input	0	×	-	1	×	0	0/1			✓	✓	✓
P12	TI11	Input	0	×	-	1	×	-	-		✓	✓	✓	✓
	TO11	Output	0	0	-	0	0	-	-		✓	✓	✓	✓
	(TRDIOD0)	Input	1	×	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	1	0	-	0	0	-	-	✓	✓	✓	✓	✓
	SO10	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	TXD1	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	INTP5	Input	×	×	-	1	×	-	-	✓	✓	✓	✓	✓
	SNZOUT3	Output	0	0	-	0	0	-	-	✓	✓	✓	✓	✓
P13	TI04	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO04	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOA0	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDCLK0	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	SI01	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
	SDA01	I/O	0	1	-	0	1	0/1	0/1	✓	✓	✓	✓	✓
	LTXD0	Output	0	0	-	0	1	×	×	✓	✓	✓	✓	✓

Table 2-3 Port peripheral function settings for 64-pin products (2/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P14	TI06	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO06	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOC0	Input	×	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	SCL01	Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	LRXD0	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
P15	TI05	Input	0	×	-	1	×	-	-	✓	✓	✓	✓	✓
	TO05	Output	0	0	-	0	0	-	-	✓	✓	✓	✓	✓
	TRDIOA1	Input	×	×	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	-	-	✓	✓	✓	✓	✓
	(TRDIOA0)	Input	1	×	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	1	0	-	0	0	-	-	✓	✓	✓	✓	✓
	(TRDCLK0)	Input	1	×	-	1	×	-	-	✓	✓	✓	✓	✓
	SO00	Output	0	0/1	-	0	1	-	-	✓	✓	✓	✓	✓
	TXD0	Output	0	0/1	-	0	1	-	-	✓	✓	✓	✓	✓
	RTC1HZ	Output	0	0	-	0	0	-	-	✓	✓	✓	✓	✓
P16	TI02	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO02	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOC1	Input	×	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	SI00	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
	SDA00	I/O	0	1	-	0	1	0/1	0/1	✓	✓	✓	✓	✓
	RXD0	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
P17	TI00	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO00	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOB1	Input	×	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	SCL00	Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	INTP3	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
P30	TI01	Input	0	-	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO01	Output	0	-	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOD1	Input	×	-	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	-	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
	INTP2	Input	0	-	-	1	×	0	0/1	✓	✓	✓	✓	✓
	SNZOUT0	Output	0	-	-	0	0	×	×	✓	✓	✓	✓	✓
P31	TI14	Input	0	-	-	1	×	-	-					✓
	TO14	Output	0	-	-	0	0	-	-					✓
	(INTP2)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
	STOPST	Output	×	-	-	0	0	-	-	✓	✓	✓	✓	✓

Table 2-3 Port peripheral function settings for 64-pin products (3/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P32	TI16	Input	0	-	-	1	×	-	-					✓
	TO16	Output	0	-	-	0	0	-	-					✓
	INTP7	Input	0	-	-	1	×	-	-	✓	✓	✓	✓	✓
P33	ANI0	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	AV_{REFP}	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
P34	ANI1	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	AV_{REFM}	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
P40	TOOL0	I/O	×	-	-	×	×	-	-	✓	✓	✓	✓	✓
P41	TI10	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
	TO10	Output	0	-	-	0	0	-	-		✓	✓	✓	✓
	TRJIO0	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	×	-	-	0	0	-	-	✓	✓	✓	✓	✓
	VCOUT0	Output	×	-	-	0	0	-	-				✓	✓
	SNZOUT2	Output	0	-	-	0	0	-	-	✓	✓	✓	✓	✓
P42	(LTXD0)	Output	1	-	-	0	1	-	-	✓	✓	✓	✓	✓
P43	(LRXD0)	Input	1	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
P50	($\overline{SSI01}$)	Input	1	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
	(INTP3)	Input	1	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
P51	(SO01)	Output	1	-	-	0	1	-	-	✓	✓	✓	✓	✓
	INTP11	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
P52	($\overline{SCK01}$)	Input	1	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
		Output	1	-	-	0	1	-	×	✓	✓	✓	✓	✓
	(STOPST)	Output	×	-	-	0	0	-	0/1	✓	✓	✓	✓	✓
P53	(SI01)	Input	1	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
	INTP10	Input	×	-	-	1	×	-	0/1		✓	✓	✓	✓
P60	($\overline{SCK00}$)	Input	1	×	-	1	×	-	0/1	✓	✓	✓	✓	✓
		Output	1	0	-	0	1	-	×	✓	✓	✓	✓	✓
	(SCL00)	Output	1	0/1	-	0	1	-	×	✓	✓	✓	✓	✓
P61	(SI00)	Input	1	×	-	1	×	-	0/1	✓	✓	✓	✓	✓
	(SDA00)	I/O	1	1	-	0	1	-	0/1	✓	✓	✓	✓	✓
	(RXD0)	Input	1	×	-	1	×	-	0/1	✓	✓	✓	✓	✓
P62	(SO00)	Output	1	0	-	0	1	×	×	✓	✓	✓	✓	✓
	(TXD0)	Output	1	0	-	0	1	×	×	✓	✓	✓	✓	✓
	SCLA0	I/O	×	1	-	0	0	0/1	0/1		✓	✓	✓	✓
P63	($\overline{SSI00}$)	Input	1	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	SDAA0	I/O	×	1	-	0	0	0/1	0/1		✓	✓	✓	✓

Table 2-3 Port peripheral function settings for 64-pin products (4/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P70	ANI26	Input	×	×	1	1	×	×	×					✓
	TI15	Input	0	×	0	1	×	0	0/1					✓
	TO15	Output	0	0	0	0	0	×	×					✓
	SI11	Input	0	×	0	1	×	0/1	0/1					✓
			0	×	-	1	×	0/1	0/1		✓	✓	✓	
	SDA11	I/O	0	1	0	0	1	0/1	0/1					✓
			0	1	-	0	1	0/1	0/1		✓	✓	✓	
	INTP8	Input	×	×	0	1	×	0	0/1					✓
			×	×	-	1	×	0	0/1		✓	✓	✓	
	KR0	Input	0	×	0	1	×	0	0/1					✓
			0	×	-	1	×	0	0/1	✓	✓	✓	✓	
	SNZOUT4	Output	0	0	0	0	0	×	×					✓
			0	0	-	0	0	×	×	✓	✓	✓	✓	
P71	TI17	Input	0	×	0	1	×	0	0/1					✓
	TO17	Output	0	0	0	0	0	×	×					✓
	$\overline{SCK11}$	Input	0	×	0	1	×	0/1	0/1					✓
			0	×	-	1	×	0/1	0/1		✓	✓	✓	
		Output	0	0/1	0	0	1	×	×					✓
			0	0/1	-	0	1	×	×		✓	✓	✓	
	SCL11	Output	0	0/1	0	0	1	×	×					✓
			0	0/1	-	0	1	×	×		✓	✓	✓	
	INTP6	Input	×	×	0	1	×	0	0/1					✓
			×	×	-	1	×	0	0/1	✓	✓	✓	✓	
	KR1	Input	0	×	0	1	×	0	0/1					✓
			0	×	-	1	×	0	0/1	✓	✓	✓	✓	
	SNZOUT5	Output	0	0	0	0	0	×	×					✓
			0	0	-	0	0	×	×	✓	✓	✓	✓	
P72	SO11	Output	0	0/1	0	0	1	-	-					✓
			0	0/1	-	0	1	-	-		✓	✓	✓	
	(CTXD0)	Output	1	0	0	0	1	-	-					✓
			1	0	-	0	1	-	-			✓	✓	
	KR2	Input	0	×	0	1	×	-	-					✓
			0	×	-	1	×	-	-	✓	✓	✓	✓	
	SNZOUT6	Output	0	0	0	0	0	-	-					✓
			0	0	-	0	0	-	-	✓	✓	✓	✓	
P73	$\overline{SSI11}$	Input	0	-	0	1	×	0/1	0/1					✓
			0	-	-	1	×	0/1	0/1		✓	✓	✓	
	(CRXD0)	Input	1	-	0	1	×	0	0/1					✓
			1	-	-	1	×	0	0/1			✓	✓	
	KR3	Input	0	-	0	1	×	0	0/1					✓
			0	-	-	1	×	0	0/1	✓	✓	✓	✓	
	SNZOUT7	Output	0	-	0	0	0	×	×					✓
			0	-	-	0	0	×	×	✓	✓	✓	✓	

Table 2-3 Port peripheral function settings for 64-pin products (5/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P74	(SO10)	Output	1	-	0	0	1	-	-					✓
			1	-	-	0	1	-	-		✓	✓	✓	
	(TXD1)	Output	1	-	0	0	1	-	-					✓
			1	-	-	0	1	-	-		✓	✓	✓	
	KR4	Input	0	-	0	1	×	-	-					✓
			0	-	-	1	×	-	-	✓	✓	✓	✓	
P75	(SI10)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	(RXD1)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	KR5	Input	0	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
P76	($\overline{\text{SCK10}}$)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
		Output	1	-	-	0	1	-	×		✓	✓	✓	✓
	KR6	Input	0	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
P77	($\overline{\text{SSI10}}$)	Input	1	-	-	1	×	-	0/1		✓	✓	✓	✓
	INTP12	Input	×	-	-	1	×	-	0/1					✓
	KR7	Input	0	-	-	1	×	-	0/1	✓	✓	✓	✓	✓
P80	ANI2	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	ANO0	Output	×	-	-	1	×	-	-				✓	✓
P81	ANI3	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP00	Input	×	-	-	1	×	-	-				✓	✓
P82	ANI4	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP01	Input	×	-	-	1	×	-	-				✓	✓
P83	ANI5	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP02	Input	×	-	-	1	×	-	-				✓	✓
P84	ANI6	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP03	Input	×	-	-	1	×	-	-				✓	✓
P85	ANI7	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVREF0	Input	×	-	-	1	×	-	-				✓	✓
P86	ANI8	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
P87	ANI9	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR0)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P90	ANI10	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR1)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P91	ANI11	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR2)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P92	ANI12	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	(KR3)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P93	ANI13	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	(KR4)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P94	ANI14	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	(KR5)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P95	ANI15	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	(KR6)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓

Table 2-3 Port peripheral function settings for 64-pin products (6/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P96	ANI16	Input	×	-	-	1	×	-	-					✓
	ANI26	Input	×	-	1	1	×	-	-		✓	✓	✓	
	(KR7)	Input	1	-	-	1	×	-	-	✓				✓
		Input	1	-	0	1	×	-	-		✓	✓	✓	
P120	ANI25	Input	×	×	1	1	×	-	-		✓	✓	✓	✓
	TI07	Input	0	×	0	1	×	-	-		✓	✓	✓	✓
			0	×	-	1	×	-	-	✓				
	TO07	Output	0	0	0	0	0	-	-		✓	✓	✓	✓
			0	0	-	0	0	-	-	✓				
	TRDIOD0	Input	0	×	0	1	×	-	-		✓	✓	✓	✓
			0	×	-	1	×	-	-	✓				
		Output	0	0	0	0	0	-	-		✓	✓	✓	✓
			0	0	-	0	0	-	-	✓				
	SO01	Output	0	0/1	0	0	1	-	-		✓	✓	✓	✓
			0	0/1	-	0	1	-	-	✓				
	INTP4	Input	×	×	0	1	×	-	-		✓	✓	✓	✓
			×	×	-	1	×	-	-	✓				
P121	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P122	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P123	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P124	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P125	ANI24	Input	×	-	1	1	×	×	×		✓	✓	✓	✓
	TI03	Input	0	-	0	1	×	0	0/1		✓	✓	✓	✓
			0	-	-	1	×	0	0/1	✓				
	TO03	Output	0	-	0	0	0	×	×		✓	✓	✓	✓
			0	-	-	0	0	×	×	✓				
	TRDIOB0	Input	0	-	0	1	×	0	0/1		✓	✓	✓	✓
			0	-	-	1	×	0	0/1	✓				
		Output	0	-	0	0	0	×	×		✓	✓	✓	✓
			0	-	-	0	0	×	×	✓				
	$\overline{SSI01}$	Input	0	-	0	1	×	0/1	0/1		✓	✓	✓	✓
			0	-	-	1	×	0/1	0/1	✓				
	INTP1	Input	×	-	0	1	×	0	0/1		✓	✓	✓	✓
			×	-	-	1	×	0	0/1	✓				
	SNZOUT1	Output	0	-	0	0	0	×	×		✓	✓	✓	✓
			0	-	-	0	0	×	×	✓				
P130	RESOUT	Output	×	-	-	-	0	-	-	✓	✓	✓	✓	✓
P137	INTP0	Input	×	-	-	-	×	-	-	✓	✓	✓	✓	✓
P140	PCLBUZ0	Output	×	-	-	0	0	-	-	✓	✓	✓	✓	✓

Remark 1. × : don't care
PIORxx : Bits in peripheral I/O redirection registers
POMxx : Bits in port output mode registers
PMCxx : Bits in port mode control registers
PMxx : Bits in port mode registers
Pxx : Bits in port registers
PIMxx : Bits in port input mode registers
PITHLxx : Bits in port input threshold control registers

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection registers (PIORx) and STOP status control registers (STPSTC).

Remark 3. To use each function of the analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI16) assigned to P33, P34, P80 to P87, and P90 to P96, D/A converter output (ANO0), and comparator I/O (VCOUT0, IVCMP00 to IVCMP03, IVREF0), select analog inputs with the A/D port configuration register (ADPC).

2.4 Port peripheral function settings for RL78/F13 and F14 (48-pin products)

Table 2.4 Port peripheral function settings for 48-pin products (1/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P00	(TI05)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(TO05)	Output	1	-	-	0	0	-	-	✓	✓	✓	✓	✓
	INTP9	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
P10	TI13	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO13	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	TRJO0	Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SCK10}$	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	SCL10	Output	0	0/1	-	0	1	×	×		✓	✓	✓	✓
	LTXD1	Output	0	0	-	0	1	×	×					✓
	CTXD0	Output	0	0	-	0	1	×	×			✓	✓	✓
P11	TI12	Input	0	×	-	1	×	0	0/1		✓	✓	✓	✓
	TO12	Output	0	0	-	0	0	×	×		✓	✓	✓	✓
	(TRDIOB0)	Input	1	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	1	0	-	0	0	×	×	✓	✓	✓	✓	✓
	SI10	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	SDA10	I/O	0	1	-	0	1	0/1	0/1		✓	✓	✓	✓
	RXD1	Input	0	×	-	1	×	0/1	0/1		✓	✓	✓	✓
	LRXD1	Input	0	×	-	1	×	0	0/1					✓
	CRXD0	Input	0	×	-	1	×	0	0/1			✓	✓	✓
P12	TI11	Input	0	×	-	1	×	-	-		✓	✓	✓	✓
	TO11	Output	0	0	-	0	0	-	-		✓	✓	✓	✓
	(TRDIOD0)	Input	1	×	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	1	0	-	0	0	-	-	✓	✓	✓	✓	✓
	SO10	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	TXD1	Output	0	0/1	-	0	1	-	-		✓	✓	✓	✓
	INTP5	Input	×	×	-	1	×	-	-	✓	✓	✓	✓	✓
	SNZOUT3	Output	0	0	-	0	0	-	-	✓	✓	✓	✓	✓
P13	TI04	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO04	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOA0	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDCLK0	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	SI01	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
	SDA01	I/O	0	1	-	0	1	0/1	0/1	✓	✓	✓	✓	✓
	LTXD0	Output	0	0	-	0	1	×	×	✓	✓	✓	✓	✓

Table 2-4 Port peripheral function settings for 48-pin products (2/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P14	TI06	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO06	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOC0	Input	×	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	SCL01	Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	LRXD0	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
P15	TI05	Input	0	×	-	1	×	-	-	✓	✓	✓	✓	✓
	TO05	Output	0	0	-	0	0	-	-	✓	✓	✓	✓	✓
	TRDIOA1	Input	×	×	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	-	-	✓	✓	✓	✓	✓
	(TRDIOA0)	Input	1	×	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	1	0	-	0	0	-	-	✓	✓	✓	✓	✓
	(TRDCLK0)	Input	1	×	-	1	×	-	-	✓	✓	✓	✓	✓
	SO00	Output	0	0/1	-	0	1	-	-	✓	✓	✓	✓	✓
	TXD0	Output	0	0/1	-	0	1	-	-	✓	✓	✓	✓	✓
	RTC1HZ	Output	0	0	-	0	0	-	-	✓	✓	✓	✓	✓
P16	TI02	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO02	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOC1	Input	×	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	SI00	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
	SDA00	I/O	0	1	-	0	1	0/1	0/1	✓	✓	✓	✓	✓
	RXD0	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
P17	TI00	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO00	Output	0	0	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOB1	Input	×	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	0	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
		Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	SCL00	Output	0	0/1	-	0	1	×	×	✓	✓	✓	✓	✓
	INTP3	Input	0	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
P30	TI01	Input	0	-	-	1	×	0	0/1	✓	✓	✓	✓	✓
	TO01	Output	0	-	-	0	0	×	×	✓	✓	✓	✓	✓
	TRDIOD1	Input	×	-	-	1	×	0	0/1	✓	✓	✓	✓	✓
		Output	×	-	-	0	0	×	×	✓	✓	✓	✓	✓
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1	✓	✓	✓	✓	✓
	INTP2	Input	0	-	-	1	×	0	0/1	✓	✓	✓	✓	✓
	SNZOUT0	Output	0	-	-	0	0	×	×	✓	✓	✓	✓	✓
P31	TI14	Input	0	-	-	1	×	-	-					✓
	TO14	Output	0	-	-	0	0	-	-					✓
	(INTP2)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
	STOPST	Output	×	-	-	0	0	-	-	✓	✓	✓	✓	✓

Table 2-4 Port peripheral function settings for 48-pin products (3/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P32	TI16	Input	0	-	-	1	×	-	-					✓
	TO16	Output	0	-	-	0	0	-	-					✓
	INTP7	Input	0	-	-	1	×	-	-	✓	✓	✓	✓	✓
P33	ANI0	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	AV_{REFP}	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
P34	ANI1	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	AV_{REFM}	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
P40	TOOL0	I/O	×	-	-	×	×	-	-	✓	✓	✓	✓	✓
P41	TI10	Input	0	-	-	1	×	-	-		✓	✓	✓	✓
	TO10	Output	0	-	-	0	0	-	-		✓	✓	✓	✓
	TRJIO0	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
		Output	×	-	-	0	0	-	-	✓	✓	✓	✓	✓
	VCOUT0	Output	×	-	-	0	0	-	-				✓	✓
	SNZOUT2	Output	0	-	-	0	0	-	-	✓	✓	✓	✓	✓
P60	($\overline{SCK00}$)	Input	1	×	-	1	×	-	0/1	✓	✓	✓	✓	✓
		Output	1	0	-	0	1	-	×	✓	✓	✓	✓	✓
	(SCL00)	Output	1	0/1	-	0	1	-	×	✓	✓	✓	✓	✓
P61	(SI00)	Input	1	×	-	1	×	-	0/1	✓	✓	✓	✓	✓
	(SDA00)	I/O	1	1	-	0	1	-	0/1	✓	✓	✓	✓	✓
	(RXD0)	Input	1	×	-	1	×	-	0/1	✓	✓	✓	✓	✓
P62	(SO00)	Output	1	0	-	0	1	×	×	✓	✓	✓	✓	✓
	(TXD0)	Output	1	0	-	0	1	×	×	✓	✓	✓	✓	✓
	SCLA0	I/O	×	1	-	0	0	0/1	0/1		✓	✓	✓	✓
P63	($\overline{SSI00}$)	Input	1	×	-	1	×	0	0/1	✓	✓	✓	✓	✓
	SDAA0	I/O	×	1	-	0	0	0/1	0/1		✓	✓	✓	✓
P70	ANI26	Input	×	×	1	1	×	×	×					✓
	TI15	Input	0	×	0	1	×	0	0/1					✓
	TO15	Output	0	0	0	0	0	×	×					✓
	SI11	Input	0	×	0	1	×	0/1	0/1					✓
			0	×	-	1	×	0/1	0/1		✓	✓	✓	
	SDA11	I/O	0	1	0	0	1	0/1	0/1					✓
			0	1	-	0	1	0/1	0/1		✓	✓	✓	
	INTP8	Input	×	×	0	1	×	0	0/1					✓
			×	×	-	1	×	0	0/1		✓	✓	✓	
	KR0	Input	0	×	0	1	×	0	0/1					✓
			0	×	-	1	×	0	0/1	✓	✓	✓	✓	
	SNZOUT4	Output	0	0	0	0	0	×	×					✓
			0	0	-	0	0	×	×	✓	✓	✓	✓	

Table 2-4 Port peripheral function settings for 48-pin products (4/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P71	ANI27	Input	×	×	1	1	×	×	×					✓
	TI17	Input	0	×	0	1	×	0	0/1					✓
	TO17	Output	0	0	0	0	0	×	×					✓
	$\overline{SCK11}$	Input	0	×	0	1	×	0/1	0/1					✓
			0	×	-	1	×	0/1	0/1		✓	✓	✓	
		Output	0	0/1	0	0	1	×	×					✓
			0	0/1	-	0	1	×	×		✓	✓	✓	
	SCL11	Output	0	0/1	0	0	1	×	×					✓
			0	0/1	-	0	1	×	×		✓	✓	✓	
	INTP6	Input	×	×	0	1	×	0	0/1					✓
			×	×	-	1	×	0	0/1	✓	✓	✓	✓	
	KR1	Input	0	×	0	1	×	0	0/1					✓
			0	×	-	1	×	0	0/1	✓	✓	✓	✓	
	SNZOUT5	Output	0	0	0	0	0	×	×					✓
			0	0	-	0	0	×	×	✓	✓	✓	✓	
P72	ANI28	Input	×	×	1	1	×	-	-					✓
	SO11	Output	0	0/1	0	0	1	-	-					✓
			0	0/1	-	0	1	-	-		✓	✓	✓	
	(CTXD0)	Output	1	0	0	0	1	-	-					✓
			1	0	-	0	1	-	-			✓	✓	
	KR2	Input	0	×	0	1	×	-	-					✓
			0	×	-	1	×	-	-	✓	✓	✓	✓	
	SNZOUT6	Output	0	0	0	0	0	-	-					✓
			0	0	-	0	0	-	-	✓	✓	✓	✓	
P73	$\overline{SSI11}$	Input	0	-	0	1	×	0/1	0/1					✓
			0	-	-	1	×	0/1	0/1		✓	✓	✓	
	(CRXD0)	Input	1	-	0	1	×	0	0/1					✓
			1	-	-	1	×	0	0/1			✓	✓	
	KR3	Input	0	-	0	1	×	0	0/1					✓
			0	-	-	1	×	0	0/1	✓	✓	✓	✓	
	SNZOUT7	Output	0	-	0	0	0	×	×					✓
			0	-	-	0	0	×	×	✓	✓	✓	✓	
P80	ANI2	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	ANO0	Output	×	-	-	1	×	-	-				✓	✓
P81	ANI3	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP00	Input	×	-	-	1	×	-	-				✓	✓
P82	ANI4	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP01	Input	×	-	-	1	×	-	-				✓	✓
P83	ANI5	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP02	Input	×	-	-	1	×	-	-				✓	✓
	(KR0)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P84	ANI6	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVCMP03	Input	×	-	-	1	×	-	-				✓	✓
	(KR1)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓

Table 2-4 Port peripheral function settings for 48-pin products (5/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P85	ANI7	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	IVREF0	Input	×	-	-	1	×	-	-				✓	✓
	(KR2)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P86	ANI8	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR3)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P87	ANI9	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR4)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P90	ANI10	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR5)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P91	ANI11	Input	×	-	-	1	×	-	-	✓	✓	✓	✓	✓
	(KR6)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P92	ANI12	Input	×	-	-	1	×	-	-		✓	✓	✓	✓
	(KR7)	Input	1	-	-	1	×	-	-	✓	✓	✓	✓	✓
P120	ANI25	Input	×	×	1	1	×	-	-		✓	✓	✓	✓
	TI07	Input	0	×	0	1	×	-	-		✓	✓	✓	✓
			0	×	-	1	×	-	-	✓				
	TO07	Output	0	0	0	0	0	-	-		✓	✓	✓	✓
			0	0	-	0	0	-	-	✓				
	TRDIOD0	Input	0	×	0	1	×	-	-		✓	✓	✓	✓
			0	×	-	1	×	-	-	✓				
		Output	0	0	0	0	0	-	-		✓	✓	✓	✓
			0	0	-	0	0	-	-	✓				
	SO01	Output	0	0/1	0	0	1	-	-		✓	✓	✓	✓
			0	0/1	-	0	1	-	-	✓				
	INTP4	Input	×	×	0	1	×	-	-		✓	✓	✓	✓
			×	×	-	1	×	-	-	✓				
P121	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P122	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P123	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓
P124	-	-	-	-	-	-	-	-	-	✓	✓	✓	✓	✓

Table 2-4 Port peripheral function settings for 48-pin products (6/6)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P125	ANI24	Input	×	-	1	1	×	×	×		✓	✓	✓	✓
	TI03	Input	0	-	0	1	×	0	0/1		✓	✓	✓	✓
			0	-	-	1	×	0	0/1	✓				
	TO03	Output	0	-	0	0	0	×	×		✓	✓	✓	✓
			0	-	-	0	0	×	×	✓				
	TRDIOB0	Input	0	-	0	1	×	0	0/1		✓	✓	✓	✓
			0	-	-	1	×	0	0/1	✓				
		Output	0	-	0	0	0	×	×		✓	✓	✓	✓
			0	-	-	0	0	×	×	✓				
	$\overline{\text{SSI01}}$	Input	0	-	0	1	×	0/1	0/1		✓	✓	✓	✓
			0	-	-	1	×	0/1	0/1	✓				
	INTP1	Input	×	-	0	1	×	0	0/1		✓	✓	✓	✓
			×	-	-	1	×	0	0/1	✓				
	SNZOUT1	Output	0	-	0	0	0	×	×		✓	✓	✓	✓
			0	-	-	0	0	×	×	✓				
P130	RESOUT	Output	×	-	-	-	0	-	-	✓	✓	✓	✓	✓
P137	INTP0	Input	×	-	-	-	×	-	-	✓	✓	✓	✓	✓
P140	PCLBUZ0	Output	×	-	-	0	0	-	-	✓	✓	✓	✓	✓

Remark 1. ×: don't care
PIORxx : Bits in peripheral I/O redirection registers
POMxx : Bits in port output mode registers
PMCxx : Bits in port mode control registers
PMxx : Bit in port mode registers
Pxx : Bits in port registers
PIMxx : Bits in port input mode registers
PITHLxx : Bits in port input threshold control registers

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection register (PIORx).

Remark 3. To use each function of the analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI12) assigned to P33, P34, P80 to P87, and P90 to P92, D/A converter output (ANO0) and comparator I/O (VCOUT0, IVCMP00 to IVCMP03, IVREF0), select analog inputs with the A/D port configuration register (ADPC).

2.5 Port peripheral function settings for RL78/F13 and F14 (32-pin products)

Table 2.5 Port peripheral function settings for 32-pin products (1/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P10	TI13	Input	0	×	-	1	×	0	0/1			✓	✓	
	TO13	Output	0	0	-	0	0	×	×			✓	✓	
	TRJO0	Output	×	0	-	0	0	×	×	✓		✓	✓	
	$\overline{SCK10}$	Input	0	×	-	1	×	0/1	0/1			✓	✓	
		Output	0	0/1	-	0	1	×	×			✓	✓	
	SCL10	Output	0	0/1	-	0	1	×	×			✓	✓	
	CTXD0	Output	0	0	-	0	1	×	×			✓	✓	
P11	TI12	Input	0	×	-	1	×	0	0/1			✓	✓	
	TO12	Output	0	0	-	0	0	×	×			✓	✓	
	(TRDIOB0)	Input	1	×	-	1	×	0	0/1	✓		✓	✓	
		Output	1	0	-	0	0	×	×	✓		✓	✓	
	SI10	Input	0	×	-	1	×	0/1	0/1			✓	✓	
	SDA10	I/O	0	1	-	0	1	0/1	0/1			✓	✓	
	RXD1	Input	0	×	-	1	×	0/1	0/1			✓	✓	
	CRXD0	Input	0	×	-	1	×	0	0/1			✓	✓	
P12	TI11	Input	0	×	-	1	×	-	-			✓	✓	
	TO11	Output	0	0	-	0	0	-	-			✓	✓	
	(TRDIOD0)	Input	1	×	-	1	×	-	-	✓		✓	✓	
		Output	1	0	-	0	0	-	-	✓		✓	✓	
	SO10	Output	0	0/1	-	0	1	-	-			✓	✓	
	TXD1	Output	0	0/1	-	0	1	-	-			✓	✓	
	INTP5	Input	×	×	-	1	×	-	-	✓		✓	✓	
	SNZOUT3	Output	0	0	-	0	0	-	-	✓		✓	✓	
P13	TI04	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO04	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOA0	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
		Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDCLK0	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	SI01	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
	SDA01	I/O	0	1	-	0	1	0/1	0/1	✓		✓	✓	
	LTXD0	Output	0	0	-	0	1	×	×	✓		✓	✓	
P14	TI06	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO06	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOC0	Input	×	×	-	1	×	0	0/1	✓		✓	✓	
		Output	×	0	-	0	0	×	×	✓		✓	✓	
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
		Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	SCL01	Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	LRXD0	Input	0	×	-	1	×	0	0/1	✓		✓	✓	

Table 2-5 Port peripheral function settings for 32-pin products (2/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P15	TI05	Input	0	×	-	1	×	-	-	✓		✓	✓	
	TO05	Output	0	0	-	0	0	-	-	✓		✓	✓	
	TRDIOA1	Input	×	×	-	1	×	-	-	✓		✓	✓	
		Output	×	0	-	0	0	-	-	✓		✓	✓	
	(TRDIOA0)	Input	1	×	-	1	×	-	-	✓		✓	✓	
		Output	1	0	-	0	0	-	-	✓		✓	✓	
	(TRDCLK0)	Input	1	×	-	1	×	-	-	✓		✓	✓	
	SO00	Output	0	0/1	-	0	1	-	-	✓		✓	✓	
	TXD0	Output	0	0/1	-	0	1	-	-	✓		✓	✓	
	RTC1HZ	Output	0	0	-	0	0	-	-	✓		✓	✓	
P16	TI02	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO02	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOC1	Input	×	×	-	1	×	0	0/1	✓		✓	✓	
		Output	×	0	-	0	0	×	×	✓		✓	✓	
	SI00	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
	SDA00	I/O	0	1	-	0	1	0/1	0/1	✓		✓	✓	
	RXD0	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
P17	TI00	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO00	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOB1	Input	×	×	-	1	×	0	0/1	✓		✓	✓	
		Output	×	0	-	0	0	×	×	✓		✓	✓	
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
		Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	SCL00	Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	INTP3	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
P30	TI01	Input	0	-	-	1	×	0	0/1	✓		✓	✓	
	TO01	Output	0	-	-	0	0	×	×	✓		✓	✓	
	TRDIOD1	Input	×	-	-	1	×	0	0/1	✓		✓	✓	
		Output	×	-	-	0	0	×	×	✓		✓	✓	
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1	✓		✓	✓	
	INTP2	Input	0	-	-	1	×	0	0/1	✓		✓	✓	
	SNZOUT0	Output	0	-	-	0	0	×	×	✓		✓	✓	
P33	ANI0	Input	×	-	-	1	×	-	-	✓		✓	✓	
	AV_{REFP}	Input	×	-	-	1	×	-	-	✓		✓	✓	
P34	ANI1	Input	×	-	-	1	×	-	-	✓		✓	✓	
	AV_{REFM}	Input	×	-	-	1	×	-	-	✓		✓	✓	
P40	TOOL0	I/O	×	-	-	×	×	-	-	✓		✓	✓	
P41	TI10	Input	0	-	-	1	×	-	-			✓	✓	
	TO10	Output	0	-	-	0	0	-	-			✓	✓	
	TRJIO0	Input	×	-	-	1	×	-	-	✓		✓	✓	
		Output	×	-	-	0	0	-	-	✓		✓	✓	
	VCOUT0	Output	×	-	-	0	0	-	-				✓	
	SNZOUT2	Output	0	-	-	0	0	-	-	✓		✓	✓	

Table 2-5 Port peripheral function settings for 32-pin products (3/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P60	(SCK00)	Input	1	×	-	1	×	-	0/1	✓		✓	✓	
		Output	1	0	-	0	1	-	×	✓		✓	✓	
	(SCL00)	Output	1	0/1	-	0	1	-	×	✓		✓	✓	
P61	(SI00)	Input	1	×	-	1	×	-	0/1	✓		✓	✓	
	(SDA00)	I/O	1	1	-	0	1	-	0/1	✓		✓	✓	
	(RXD0)	Input	1	×	-	1	×	-	0/1	✓		✓	✓	
P62	(SO00)	Output	1	0	-	0	1	×	×	✓		✓	✓	
	(TXD0)	Output	1	0	-	0	1	×	×	✓		✓	✓	
	SCLA0	I/O	×	1	-	0	0	0/1	0/1			✓	✓	
P63	(SSI00)	Input	1	×	-	1	×	0	0/1	✓		✓	✓	
	SDAA0	I/O	×	1	-	0	0	0/1	0/1			✓	✓	
P80	ANI2	Input	×	-	-	1	×	-	-	✓		✓	✓	
	ANO0	Output	×	-	-	1	×	-	-				✓	
	(KR0)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P81	ANI3	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP00	Input	×	-	-	1	×	-	-				✓	
	(KR1)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P82	ANI4	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP01	Input	×	-	-	1	×	-	-				✓	
	(KR2)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P83	ANI5	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP02	Input	×	-	-	1	×	-	-				✓	
	(KR3)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P84	ANI6	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP03	Input	×	-	-	1	×	-	-				✓	
	(KR4)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P85	ANI7	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVREF0	Input	×	-	-	1	×	-	-				✓	
	(KR5)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P120	ANI25	Input	×	×	1	1	×	-	-			✓	✓	
	TI07	Input	0	×	0	1	×	-	-			✓	✓	
			0	×	-	1	×	-	-	✓				
	TO07	Output	0	0	0	0	0	-	-			✓	✓	
			0	0	-	0	0	-	-	✓				
	TRDIOD0	Input	0	×	0	1	×	-	-			✓	✓	
			0	×	-	1	×	-	-	✓				
		Output	0	0	0	0	0	-	-			✓	✓	
			0	0	-	0	0	-	-	✓				
	SO01	Output	0	0/1	0	0	1	-	-			✓	✓	
			0	0/1	-	0	1	-	-	✓				
	INTP4	Input	×	×	0	1	×	-	-			✓	✓	
			×	×	-	1	×	-	-	✓				
P121	-	-	-	-	-	-	-	-	-	✓		✓	✓	
P122	-	-	-	-	-	-	-	-	-	✓		✓	✓	

Table 2-5 Port peripheral function settings for 32-pin products (4/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P125	ANI24	Input	×	-	1	1	×	×	×			✓	✓	
	TI03	Input	0	-	0	1	×	0	0/1			✓	✓	
			0	-	-	1	×	0	0/1	✓				
	TO03	Output	0	-	0	0	0	×	×			✓	✓	
			0	-	-	0	0	×	×	✓				
	TRDIOB0	Input	0	-	0	1	×	0	0/1			✓	✓	
			0	-	-	1	×	0	0/1	✓				
		Output	0	-	0	0	0	×	×			✓	✓	
			0	-	-	0	0	×	×	✓				
	$\overline{SSI01}$	Input	0	-	0	1	×	0/1	0/1			✓	✓	
			0	-	-	1	×	0/1	0/1	✓				
	INTP1	Input	×	-	0	1	×	0	0/1			✓	✓	
			×	-	-	1	×	0	0/1	✓				
	SNZOUT1	Output	0	-	0	0	0	×	×			✓	✓	
			0	-	-	0	0	×	×	✓				
P137	INTP0	Input	×	-	-	-	×	-	-	✓		✓	✓	

Remark 1. × : don't care
PIORxx : Bits in peripheral I/O redirection registers
POMxx : Bits in port output mode registers
PMCxx : Bits in port mode control registers
PMxx : Bits in port mode registers
Pxx : Bits in port registers
PIMxx : Bits in port input mode registers
PITHLxx : Bits in port input threshold control registers

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection registers (PIORx).

Remark 3. To use each function of analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI7) assigned to P33, P34, and P80 to P85, D/A converter output (ANO0), comparator I/O (VCOUT0, IVCMP00 to IVCMP03, IVREF0), select analog input with the A/D port configuration register (ADPC).

2.6 Port peripheral function settings for RL78/F13 and F14 (30-pin products)

Table 2.6 Port peripheral function settings for 30-pin products (1/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P10	TI13	Input	0	×	-	1	×	0	0/1			✓	✓	
	TO13	Output	0	0	-	0	0	×	×			✓	✓	
	TRJO0	Output	×	0	-	0	0	×	×	✓		✓	✓	
	$\overline{SCK10}$	Input	0	×	-	1	×	0/1	0/1			✓	✓	
		Output	0	0/1	-	0	1	×	×			✓	✓	
	SCL10	Output	0	0/1	-	0	1	×	×			✓	✓	
	CTXD0	Output	0	0	-	0	1	×	×			✓	✓	
P11	TI12	Input	0	×	-	1	×	0	0/1			✓	✓	
	TO12	Output	0	0	-	0	0	×	×			✓	✓	
	(TRDIOB0)	Input	1	×	-	1	×	0	0/1	✓		✓	✓	
		Output	1	0	-	0	0	×	×	✓		✓	✓	
	SI10	Input	0	×	-	1	×	0/1	0/1			✓	✓	
	SDA10	I/O	0	1	-	0	1	0/1	0/1			✓	✓	
	RXD1	Input	0	×	-	1	×	0/1	0/1			✓	✓	
	CRXD0	Input	0	×	-	1	×	0	0/1			✓	✓	
P12	TI11	Input	0	×	-	1	×	-	-			✓	✓	
	TO11	Output	0	0	-	0	0	-	-			✓	✓	
	(TRDIOD0)	Input	1	×	-	1	×	-	-	✓		✓	✓	
		Output	1	0	-	0	0	-	-	✓		✓	✓	
	SO10	Output	0	0/1	-	0	1	-	-			✓	✓	
	TXD1	Output	0	0/1	-	0	1	-	-			✓	✓	
	INTP5	Input	×	×	-	1	×	-	-	✓		✓	✓	
	SNZOUT3	Output	0	0	-	0	0	-	-	✓		✓	✓	
P13	TI04	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO04	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOA0	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
		Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDCLK0	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	SI01	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
	SDA01	I/O	0	1	-	0	1	0/1	0/1	✓		✓	✓	
	LTXD0	Output	0	0	-	0	1	×	×	✓		✓	✓	
P14	TI06	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO06	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOC0	Input	×	×	-	1	×	0	0/1	✓		✓	✓	
		Output	×	0	-	0	0	×	×	✓		✓	✓	
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
		Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	SCL01	Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	LRXD0	Input	0	×	-	1	×	0	0/1	✓		✓	✓	

Table 2-6 Port peripheral function settings for 30-pin products (2/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P15	TI05	Input	0	×	-	1	×	-	-	✓		✓	✓	
	TO05	Output	0	0	-	0	0	-	-	✓		✓	✓	
	TRDIOA1	Input	×	×	-	1	×	-	-	✓		✓	✓	
		Output	×	0	-	0	0	-	-	✓		✓	✓	
	(TRDIOA0)	Input	1	×	-	1	×	-	-	✓		✓	✓	
		Output	1	0	-	0	0	-	-	✓		✓	✓	
	(TRDCLK0)	Input	1	×	-	1	×	-	-	✓		✓	✓	
	SO00	Output	0	0/1	-	0	1	-	-	✓		✓	✓	
	TXD0	Output	0	0/1	-	0	1	-	-	✓		✓	✓	
	RTC1HZ	Output	0	0	-	0	0	-	-	✓		✓	✓	
P16	TI02	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO02	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOC1	Input	×	×	-	1	×	0	0/1	✓		✓	✓	
		Output	×	0	-	0	0	×	×	✓		✓	✓	
	SI00	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
	SDA00	I/O	0	1	-	0	1	0/1	0/1	✓		✓	✓	
	RXD0	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
P17	TI00	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
	TO00	Output	0	0	-	0	0	×	×	✓		✓	✓	
	TRDIOB1	Input	×	×	-	1	×	0	0/1	✓		✓	✓	
		Output	×	0	-	0	0	×	×	✓		✓	✓	
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1	✓		✓	✓	
		Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	SCL00	Output	0	0/1	-	0	1	×	×	✓		✓	✓	
	INTP3	Input	0	×	-	1	×	0	0/1	✓		✓	✓	
P30	TI01	Input	0	-	-	1	×	0	0/1	✓		✓	✓	
	TO01	Output	0	-	-	0	0	×	×	✓		✓	✓	
	TRDIOD1	Input	×	-	-	1	×	0	0/1	✓		✓	✓	
		Output	×	-	-	0	0	×	×	✓		✓	✓	
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1	✓		✓	✓	
	INTP2	Input	0	-	-	1	×	0	0/1	✓		✓	✓	
	SNZOUT0	Output	0	-	-	0	0	×	×	✓		✓	✓	
P33	ANI0	Input	×	-	-	1	×	-	-	✓		✓	✓	
	AV_{REFP}	Input	×	-	-	1	×	-	-	✓		✓	✓	
P34	ANI1	Input	×	-	-	1	×	-	-	✓		✓	✓	
	AV_{REFM}	Input	×	-	-	1	×	-	-	✓		✓	✓	
P40	TOOL0	I/O	×	-	-	×	×	-	-	✓		✓	✓	
P41	TI10	Input	0	-	-	1	×	-	-			✓	✓	
	TO10	Output	0	-	-	0	0	-	-			✓	✓	
	TRJIO0	Input	×	-	-	1	×	-	-	✓		✓	✓	
		Output	×	-	-	0	0	-	-	✓		✓	✓	
	VCOUT0	Output	×	-	-	0	0	-	-				✓	
	SNZOUT2	Output	0	-	-	0	0	-	-	✓		✓	✓	

Table 2-6 Port peripheral function settings for 30-pin products (3/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P80	ANI2	Input	×	-	-	1	×	-	-	✓		✓	✓	
	ANO0	Output	×	-	-	1	×	-	-				✓	
	(KR0)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P81	ANI3	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP00	Input	×	-	-	1	×	-	-				✓	
	(KR1)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P82	ANI4	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP01	Input	×	-	-	1	×	-	-				✓	
	(KR2)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P83	ANI5	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP02	Input	×	-	-	1	×	-	-				✓	
	(KR3)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P84	ANI6	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVCMP03	Input	×	-	-	1	×	-	-				✓	
	(KR4)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P85	ANI7	Input	×	-	-	1	×	-	-	✓		✓	✓	
	IVREF0	Input	×	-	-	1	×	-	-				✓	
	(KR5)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P86	ANI8	Input	×	-	-	1	×	-	-	✓		✓	✓	
	(KR6)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P87	ANI9	Input	×	-	-	1	×	-	-	✓		✓	✓	
	(KR7)	Input	1	-	-	1	×	-	-	✓		✓	✓	
P120	ANI25	Input	×	×	1	1	×	-	-			✓	✓	
	TI07	Input	0	×	0	1	×	-	-			✓	✓	
			0	×	-	1	×	-	-	✓				
	TO07	Output	0	0	0	0	0	-	-			✓	✓	
			0	0	-	0	0	-	-	✓				
	TRDIOD0	Input	0	×	0	1	×	-	-			✓	✓	
			0	×	-	1	×	-	-	✓				
		Output	0	0	0	0	0	-	-			✓	✓	
			0	0	-	0	0	-	-	✓				
	SO01	Output	0	0/1	0	0	1	-	-			✓	✓	
			0	0/1	-	0	1	-	-	✓				
	INTP4	Input	×	×	0	1	×	-	-			✓	✓	
			×	×	-	1	×	-	-	✓				
P121	-	-	-	-	-	-	-	-	-	✓		✓	✓	
P122	-	-	-	-	-	-	-	-	-	✓		✓	✓	

Table 2-6 Port peripheral function settings for 30-pin products (4/4)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P125	ANI24	Input	×	-	1	1	×	×	×			✓	✓	
	TI03	Input	0	-	0	1	×	0	0/1			✓	✓	
			0	-	-	1	×	0	0/1	✓				
	TO03	Output	0	-	0	0	0	×	×			✓	✓	
			0	-	-	0	0	×	×	✓				
	TRDIOB0	Input	0	-	0	1	×	0	0/1			✓	✓	
			0	-	-	1	×	0	0/1	✓				
		Output	0	-	0	0	0	×	×			✓	✓	
			0	-	-	0	0	×	×	✓				
	$\overline{\text{SSI01}}$	Input	0	-	0	1	×	0/1	0/1			✓	✓	
			0	-	-	1	×	0/1	0/1	✓				
	INTP1	Input	×	-	0	1	×	0	0/1			✓	✓	
			×	-	-	1	×	0	0/1	✓				
	SNZOUT1	Output	0	-	0	0	0	×	×			✓	✓	
			0	-	-	0	0	×	×	✓				
P137	INTP0	Input	×	-	-	-	×	-	-	✓		✓	✓	

Remark 1. × : don't care
PIORxx : Bits in peripheral I/O redirection registers
POMxx : Bits in port output mode registers
PMCxx : Bits in port mode control registers
PMxx : Bits in port mode registers
Pxx : Bits in port registers
PIMxx : Bits in port input mode registers
PITHLxx : Bits in port input threshold control registers

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection registers (PIORx).

Remark 3. To use each function of analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI9) assigned to P33, P34, and P80 to P87, D/A converter output (ANO0), comparator I/O (VCOUT0, IVCMP00 to IVCMP03, IVREF0), select analog input with the A/D port configuration register (ADPC).

2.7 Port peripheral function settings for RL78/F13 (20-pin products)

Table 2.7 Port peripheral function settings for 20-pin products (1/2)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P13	TI04	Input	0	×	-	1	×	0	0/1	✓				
	TO04	Output	0	0	-	0	0	×	×	✓				
	TRDIOA0	Input	0	×	-	1	×	0	0/1	✓				
		Output	0	0	-	0	0	×	×	✓				
	TRDCLK0	Input	0	×	-	1	×	0	0/1	✓				
	SI01	Input	0	×	-	1	×	0/1	0/1	✓				
	SDA01	I/O	0	1	-	0	1	0/1	0/1	✓				
	LTXD0	Output	0	0	-	0	1	×	×	✓				
P14	TI06	Input	0	×	-	1	×	0	0/1	✓				
	TO06	Output	0	0	-	0	0	×	×	✓				
	TRDIOC0	Input	×	×	-	1	×	0	0/1	✓				
		Output	×	0	-	0	0	×	×	✓				
	$\overline{SCK01}$	Input	0	×	-	1	×	0/1	0/1	✓				
		Output	0	0/1	-	0	1	×	×	✓				
	SCL01	Output	0	0/1	-	0	1	×	×	✓				
	LRXD0	Input	0	×	-	1	×	0	0/1	✓				
P15	TI05	Input	0	×	-	1	×	-	-	✓				
	TO05	Output	0	0	-	0	0	-	-	✓				
	TRDIOA1	Input	×	×	-	1	×	-	-	✓				
		Output	×	0	-	0	0	-	-	✓				
	(TRDIOA0)	Input	1	×	-	1	×	-	-	✓				
		Output	1	0	-	0	0	-	-	✓				
	(TRDCLK0)	Input	1	×	-	1	×	-	-	✓				
	SO00	Output	0	0/1	-	0	1	-	-	✓				
	TXD0	Output	0	0/1	-	0	1	-	-	✓				
	RTC1HZ	Output	0	0	-	0	0	-	-	✓				
P16	TI02	Input	0	×	-	1	×	0	0/1	✓				
	TO02	Output	0	0	-	0	0	×	×	✓				
	TRDIOC1	Input	×	×	-	1	×	0	0/1	✓				
		Output	×	0	-	0	0	×	×	✓				
	SI00	Input	0	×	-	1	×	0/1	0/1	✓				
	SDA00	I/O	0	1	-	0	1	0/1	0/1	✓				
	RXD0	Input	0	×	-	1	×	0/1	0/1	✓				
P17	TI00	Input	0	×	-	1	×	0	0/1	✓				
	TO00	Output	0	0	-	0	0	×	×	✓				
	TRDIOB1	Input	×	×	-	1	×	0	0/1	✓				
		Output	×	0	-	0	0	×	×	✓				
	$\overline{SCK00}$	Input	0	×	-	1	×	0/1	0/1	✓				
		Output	0	0/1	-	0	1	×	×	✓				
	SCL00	Output	0	0/1	-	0	1	×	×	✓				
	INTP3	Input	0	×	-	1	×	0	0/1	✓				

Table 2-7 Port peripheral function settings for 20-pin products (2/2)

Pin	Alternate function		PIORxx	POMxx	PMCxx	PMxx	Pxx	PIMxx	PITHLxx	Product group				
	Function name	I/O								A	B	C	D	E
P30	TI01	Input	0	-	-	1	×	0	0/1	✓				
	TO01	Output	0	-	-	0	0	×	×	✓				
	TRDIOD1	Input	×	-	-	1	×	0	0/1	✓				
		Output	×	-	-	0	0	×	×	✓				
	$\overline{SSI00}$	Input	0	-	-	1	×	0/1	0/1	✓				
	INTP2	Input	0	-	-	1	×	0	0/1	✓				
	SNZOUT0	Output	0	-	-	0	0	×	×	✓				
P33	ANI0	Input	×	-	-	1	×	-	-	✓				
	AV_{REFP}	Input	×	-	-	1	×	-	-	✓				
P34	ANI1	Input	×	-	-	1	×	-	-	✓				
	AV_{REFM}	Input	×	-	-	1	×	-	-	✓				
P40	TOOL0	I/O	×	-	-	×	×	-	-	✓				
P80	ANI2	Input	×	-	-	1	×	-	-	✓				
	(KR0)	Input	1	-	-	1	×	-	-	✓				
P81	ANI3	Input	×	-	-	1	×	-	-	✓				
	(KR1)	Input	1	-	-	1	×	-	-	✓				
P120	TI07	Input	0	×	-	1	×	-	-	✓				
	TO07	Output	0	0	-	0	0	-	-	✓				
	TRDIOD0	Input	0	×	-	1	×	-	-	✓				
		Output	0	0	-	0	0	-	-	✓				
	SO01	Output	0	0/1	-	0	1	-	-	✓				
	INTP4	Input	×	×	-	1	×	-	-	✓				
P121	-	-	-	-	-	-	-	-	-	✓				
P122	-	-	-	-	-	-	-	-	-	✓				
P125	TI03	Input	0	-	-	1	×	0	0/1	✓				
	TO03	Output	0	-	-	0	0	×	×	✓				
	TRDIOB0	Input	0	-	-	1	×	0	0/1	✓				
		Output	0	-	-	0	0	×	×	✓				
	$\overline{SSI01}$	Input	0	-	-	1	×	0/1	0/1	✓				
	INTP1	Input	×	-	-	1	×	0	0/1	✓				
	SNZOUT1	Output	0	-	-	0	0	×	×	✓				
P137	INTP0	Input	×	-	-	-	×	-	-	✓				

Remark 1. ×：don't care
PIORxx：Bits in peripheral I/O redirection registers
POMxx：Bits in port output mode registers
PMCxx：Bits in port mode control registers
PMxx：Bits in port mode registers
Pxx：Bits in port registers
PIMxx：Bits in port input mode registers
PITHLxx：Bits in port input threshold control registers

Remark 2. The functions in parenthesis can be assigned through the settings of peripheral I/O redirection registers (PIORx).

Remark 3. To use each function of analog inputs (AV_{REFP}, AV_{REFM}, ANI0 to ANI3) assigned to P33, P34, P80, and P81, select analog input with the A/D port configuration register (ADPC).

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Renesas Electronics Website

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Revision History

		Description	
Rev.	Date	Page	Summary
Rev. 1.00	2014.12.15		1st edition

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 accordance 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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