ITEM: LCD Driver List of Output	ITEM: LCD Driver List of Output Pins								
Object manuals	Document	Items	Pages						
	codes								
S1C17M10Technical Manual	413180100	17.2.1 List of Output Pins	17-2						
S1C17M30/M31/M32/M33/M34Tec	413495501	18.2.1 List of Output Pins	18-3						
hnical Manual									
S1C17W13Technical Manual	413180301	18.2.1 List of Output Pins	18-2						
S1C17W14/W16Technical Manual	412910200	16.2.1 List of Output Pins	18-2						
S1C17W15Technical Manual	412645602	17.2.1 List of Output Pins	17-2						
S1C17W18Technical Manual	413129501	18.2.1 List of Output Pins	18-2						
S1C17W22/W23Technical Manual	412690302	18.2.1 List of Output Pins	18-2						
S1C17W34/W35/W36Technical	440007404	18.2.1 List of Output Pins	18-2						
Manual	413237401								
S7C17M11Technical Manual	413393800	17.2.1 List of Output Pins	17-2						
S1C17M10Technical Manual									

(Error)

The COM8-15 outputs and SEG87-80 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note: Be sure to avoid using the VC1 to VC5 pin outputs for driving external circuits.

(Correct)

The COM8-15 outputs and SEG87-80 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note:

- Be sure to avoid using the VC1 to VC5 pin outputs for driving external circuits.
- When LCD panel is connected, LCD16CTL.LCDDIS bit should be set to 1. If it has been set to 0, there is a possibility that LCD panel's characteristics is fluctuated.

S1C17M30/M31/M32/M33/M34 Technical Manual, S7C17M11 Technical Manual

(Error)

The COM4-7 outputs and SEG0-4 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note: Be sure to avoid using the VC1 to VC3 pin outputs of the model with an embedded LCD power supply for driving external circuits.

(Correct)

The COM4-7 outputs and SEG0-4 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note:

- Be sure to avoid using the VC1 to VC3 pin outputs of the model with an embedded LCD power supply for driving external circuits.
- When LCD panel is connected, LCD8CTLLCDDIS bit should be set to 1. If it has been set to 0, there is a possibility that LCD panel's characteristics is fluctuated.

S1C17W13 Technical Manual

(Error)

If the port is shared with the LCD4A pin and other functions, the LCD4A output function must be assigned to the port before activating the LCD4A. For more information, refer to the "I/O Ports" chapter.

Note: Be sure to avoid using the VC1 to VC3 pin outputs for driving external circuits.

(Correct)

If the port is shared with the LCD4A pin and other functions, the LCD4A output function must be assigned to the port before activating the LCD4A. For more information, refer to the "I/O Ports" chapter.

Note:

- Be sure to avoid using the VC1 to VC3 pin outputs for driving external circuits.
- <u>When LCD panel is connected, LCD4CTL.LCDDIS bit should be set to 1. If it has been set to 0, there is a</u> possibility that LCD panel's characteristics is fluctuated.

S1C17W14/W16Technical Manual, S1C17W18Technical Manual

(Error)

The COM4-7 outputs and SEG0-4 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note: Be sure to avoid using the VC1 to VC3 pin outputs for driving external circuits

(Correct)

The COM4-7 outputs and SEG0-4 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note:

- Be sure to avoid using the VC1 to VC3 pin outputs for driving external circuits
- When LCD panel is connected, LCD8CTLLCDDIS bit should be set to 1. If it has been set to 0, there is a possibility that LCD panel's characteristics is fluctuated.

S1C17W15Technical Manual

(Error)

The COM4-7 outputs and SEG0-4 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note: Be sure to avoid using the VC1 to VC4 pin outputs for driving external circuits.

(Correct)

The COM4-7 outputs and SEG0-4 outputs share the pins and selecting a drive duty switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note:

- Be sure to avoid using the VC1 to VC4 pin outputs for driving external circuits.
- When LCD panel is connected, LCD8CTLMODEN bit should be set to 1. If it has been set to 0, there is a possibility that LCD panel's characteristics is fluctuated.

S1C17W22/W23Technical Manual

(Error)

If the port is shared with the LCD24A pin and other functions, the LCD24A output function must be assigned to the port before activating the LCD24A. For more information, refer to the "I/O Ports" chapter.

Note: Be sure to avoid using the VC1 to VC4 pin outputs for driving external circuits.

(Correct)

f the port is shared with the LCD24A pin and other functions, the LCD24A output function must be assigned to the port before activating the LCD24A. For more information, refer to the "I/O Ports" chapter.

Note:

- Be sure to avoid using the VC1 to VC4 pin outputs for driving external circuits.
- When LCD panel is connected, LCD24CTLMODEN bit should be set to 1. If it has been set to 0, there is a possibility that LCD panel's characteristics is fluctuated.

S1C17W34/W35/W36Technical Manual

(Error)

The COM16-31 outputs and SEG0-15 or SEG79-64 outputs share the pins. Selecting a drive duty and COM[31:16] pin location switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note: Be sure to avoid using the VC1 to VC5 pin outputs for driving external circuits.

(Correct)

The COM16-31 outputs and SEG0-15 or SEG79-64 outputs share the pins. Selecting a drive duty and COM[31:16] pin location switches the pins to COM pins or SEG pins. For the pin configuration, refer to "Drive Duty Switching."

Note:

- Be sure to avoid using the VC1 to VC5 pin outputs for driving external circuits.
- When LCD panel is connected, LCD32CTLMODEN bit should be set to 1. If it has been set to 0, there is a possibility that LCD panel's characteristics is fluctuated.

ITEM: LCD Driver List of Output Pins								
Object manuals	Document codes	Items	Pages					
S1C17M01Technical Manual	412361601	14.2.1 List of Output Pins	14-2					
S1C17M10Technical Manual	413180100	17.2.1 List of Output Pins	17-2					
S1C17M30/M31/M32/M33/M34Tec hnical Manual	413495501	18.2.1 List of Output Pins	18-3					
S1C17W13Technical Manual	413180301	18.2.1 List of Output Pins	18-2					
S1C17W14/W16Technical Manual	412910200	16.2.1 List of Output Pins	18-2					
S1C17W15Technical Manual	412645602	17.2.1 List of Output Pins	17-2					
S1C17W18Technical Manual	413129501	18.2.1 List of Output Pins	18-2					
S1C17W22/W23Technical Manual	412690302	18.2.1 List of Output Pins	18-2					
S1C17W34/W35/W36Technical Manual	413237401	18.2.1 List of Output Pins	18-2					
S7C17M11Technical Manual	413393800	17.2.1 List of Output Pins	17-2					

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rror)		Table	. 14 0 1 1 1	ist of LCD8A Pins
D ¹				
Pin name	1/0		tial status*	Function
SEG31-0	0		O (L)	Segment data output pin
COM7-0	-		O (L)	Common data output pin
LFRO	0		0 (L)	Frame signal monitoring output pin
Vc1	P		-	LCD panel drive power supply pin
Vc2	P		-	LCD panel drive power supply pin
Vc3	P		-	LCD panel drive power supply pin
CP1	A		-	LCD voltage booster capacitor connecting pin
CP2	A		-	LCD voltage booster capacitor connecting pin
correct)				
		Table	e 14.2.1.1 L	ist of LCD8A Pins
Pin name	I/O		tial status*	Function
SEG31-0	\/U A'		O (L)	Segment data output pin
COM7-0	A		O (L)	Common data output pin
LFRO	0		O (L)	Frame signal monitoring output pin
Vc1	P		-	LCD panel drive power supply pin
•••			_	LCD panel drive power supply pin
Vc2	P			
Vc2	<u>Р</u>		_	
Vc3	P		-	LCD panel drive power supply pin
			- - - *	
Vc3 CP1	P A A		- - *	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin
Vc3 CP1 CP2 IC17M10 Technical M	P A A	Table		LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name	P A A Ianual	Table Initial status*1	17.2.1.1 Lis	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7	P A A Ianual	Table Initial status*1 Hi-Z / O (L)*2	17.2.1.1 Lis	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80	A A Ianual	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	17.2.1.1 Lis Common d General pu	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function Iata output pins irpose IO/common data output/segment data output pins
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG0-68	P A A Ianual I/0*1 O O O	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	17.2.1.1 Lis Common c General pu Segment d	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function Iata output pins irpose IO/common data output/segment data output pins
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG0-68 SEG0-68 SEG69-79	A A Ianual	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	17.2.1.1 Lis Common c General pu Segment d General pu	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins irpose IO/common data output/segment data output pins irpose IO/segment data output pins
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG0-68 SEG0-68 SEG69-79 LFRO	A A Ianual	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	17.2.1.1 Lis Common c General pu Segment d General pu Frame sign	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins irpose IO/common data output/segment data output pins ata output pins irpose IO/segment data output pins aal monitoring output pin
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG0-68 SEG69-79 LFRO Vc1-5	A A Ianual	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	17.2.1.1 Lis Common co General pu Segment do General pu Frame sign LCD panel	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins irpose IO/common data output/segment data output pins irpose IO/segment data output pins aal monitoring output pin drive power supply pins
Vc3 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG0-68 SEG69-79 LFRO Vc1-5 CP1-5 CP1-5	A A Ianual I/0*1 O O O O O O O O O A	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² O (L) - -	17.2.1.1 Lis Common of General pu Segment d General pu Frame sign LCD panel LCD voltag	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins irpose IO/common data output/segment data output pins ata output pins irpose IO/segment data output pins aal monitoring output pin
Vc3 CP1 CP2 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM0-7 COM8-15/SEG87-80 SEG0-68 SEG69-79 LFRO Vc1-5 CP1-5 *1: Indica	P A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) - - - status when the Table	17.2.1.1 Lis Common co General pu Segment do General pu Frame sign LCD panel LCD voltag e pin is confi	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins rpose IO/common data output/segment data output pins indicates reapacitor connecting pin lata output pins rpose IO/segment data output pins ial monitoring output pin drive power supply pins je booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = 1 st of LCD16A Pins
Vc3 CP1 CP2 CP2 IC17M10 Technical M rror) Pin name COM0-7 Correct) Pin name	P A A A Ianual	Table Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² O (L) - - status when the Table Initial status ⁺¹	17.2.1.1 Lis Common co General pu Segment di General pu Frame sign LCD panel LCD voltag e pin is confi 17.2.1.1 Lis	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins rpose IO/common data output/segment data output pins rpose IO/segment data output pins all monitoring output pin drive power supply pins je booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = 1 st of LCD16A Pins
Vc3 CP1 CP2 CP2 IC17M10 Technical M rror) Pin name COM0-7 Vc1-5 CP1-5 *1: Indica correct) Pin name COM0-7	A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) - - status when the Table Initial status*1 Hi-Z / O (L)*2	17.2.1.1 Lis Common co General pu Segment di General pu Frame sign LCD panel LCD voltag pin is confi 17.2.1.1 Lis Common co	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins rpose IO/common data output/segment data output pins rpose IO/segment data output pins all monitoring output pin drive power supply pins je booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = 1 st of LCD16A Pins Function
Vc3 CP1 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM0-7 COM8-15/SEG87-80 SEG0-68 SEG69-79 LFRO Vc1-5 CP1-5 *1: Indica correct) Pin name COM0-7 COM0-7 COM0-7 COM8-15/SEG87-80	A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) - - status when the Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	17.2.1.1 Lis Common co General pu Segment di General pu Frame sign LCD panel LCD voltag pin is confi 17.2.1.1 Lis Common co General pu	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins rpose IO/common data output/segment data output pins rata output pins rpose IO/segment data output pins je booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = : st of LCD16A Pins Function
Vc3 CP1 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG0-68 SEG69-79 LFRO Vc1-5 CP1-5 *1: Indica Correct) Pin name COM0-7 COM0-7 Segreet)	A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) - - status when the Table Initial status*1 Hi-Z / O (L)*2 - - - - status when the Initial status*1 Hi-Z / O (L)*2	17.2.1.1 Lis Common co General pu Segment do General pu Frame sign LCD panel LCD voltag pin is confi 17.2.1.1 Lis Common co General pu Segment do	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function data output pins rrpose IO/common data output/segment data output pins indicates capacitor connecting pin ial monitoring output pin drive power supply pins ge booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = st of LCD16A Pins Function data output pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = st of LCD16A Pins Function data output pins igured for LCD16A Pins Function data output pins rpose IO/common data output/segment data output pins
Vc3 CP1 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM0-7 COM8-15/SEG87-80 SEG60-68 SEG69-79 LFRO Vc1-5 CP1-5 *1: Indica Correct) Pin name COM0-7 COM0-7 Segreet Segreet Vc1-5 CP1-5 *1: Indica Segreet Segreet COM0-7 Segreet Segreet Pin name COM0-7 Segreet Segreet	A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Status when the Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	17.2.1.1 Lis Common co General pu Segment di General pu Frame sign LCD panel LCD voltag pin is confi 17.2.1.1 Lis Common co General pu Segment di General pu	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins rpose IO/common data output/segment data output pins rata output pins rpose IO/segment data output pins je booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = : st of LCD16A Pins Function ad output pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = : st of LCD16A Pins Function lata output pins igured for LCD16A. #2: When LCD16CTL.LCDDIS bit = :
Vc3 CP1 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM8-15/SEG87-80 SEG60-68 SEG69-79 LFRO Vc1-5 CP1-5 *1: Indica correct) Pin name COM0-7 COM0-7 LFRO Secored VC1-5 CP1-5 *1: Indica Secored LFRO PIN name COM0-7 LFRO PIN name COM0-7 LFRO	P A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) - - status when the Initial status*1 Hi-Z / O (L)*2 O (L)	17.2.1.1 Lis Common co General pu Frame sign LCD panel LCD voltag pin is confi 17.2.1.1 Lis Common co General pu Segment do General pu Frame sign	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function data output pins rpose IO/common data output/segment data output pins indicates capacitor connecting pin all monitoring output pin drive power supply pins ge booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = st of LCD16A Pins Function ala output pins rpose IO/common data output pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = st of LCD16A Pins Function ala output pins rpose IO/common data output/segment data output pins ata output pins rpose IO/common data output/segment data output pins ata output pins rpose IO/common data output/segment data output pins ata output pins rpose IO/segment data output pins ata output pins
Vc3 CP1 CP1 CP2 IC17M10 Technical M rror) Pin name COM0-7 COM0-7 COM8-15/SEG87-80 SEG60-68 SEG69-79 LFRO Vc1-5 CP1-5 *1: Indica Correct) Pin name COM0-7 COM0-7 Segreed Segreed Vc1-5 CP1-5 *1: Indica Segreed Segreed COM0-7 Segreed Segreed	A A A Ianual	Table Initial status*1 Hi-Z / O (L)*2 Status when the Table Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	17.2.1.1 Lis Common co General pu Segment do General pu Frame sign LCD panel LCD voltag pin is confi 17.2.1.1 Lis Common co General pu Segment do General pu Frame sign LCD panel	LCD panel drive power supply pin LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin Indicates the status when the pin is configured for LCD8A st of LCD16A Pins Function lata output pins rpose IO/common data output/segment data output pins rata output pins rpose IO/segment data output pins je booster capacitor connecting pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = : st of LCD16A Pins Function ad output pins igured for LCD16A. *2: When LCD16CTL.LCDDIS bit = : st of LCD16A Pins Function lata output pins igured for LCD16A. #2: When LCD16CTL.LCDDIS bit = :

			Т	able 18.2.1.1 List of LCD8A Pins
Pin name	е	I/O+1	Initial status*1	Function
COM0-3		Α	Hi-Z / O (Vss)*2	Common data output pins
COM4-7/SEC	G0-3	Α	Hi-Z / O (Vss)*2	Common data output/segment data output pins
SEG4-49		Α	Hi-Z / O (Vss)*2	Segment data output pins (See Table 18.2.1.2.)
LFRO		0	O (L)	Frame signal monitoring output pin
Vc1		Р	-	LCD panel drive power supply pin
Vc2		Р	-	LCD panel drive power supply pin
Vсз		Р	-	LCD panel drive power supply pin
CP1		А	-	LCD voltage booster capacitor connecting pin (S1C17M31/M33/M34)
CP2		Α	-	LCD voltage booster capacitor connecting pin (S1C17M31/M33/M34)
orrect)			-	able 18.2.1.1 List of LCD8A Pins
Pin name	e	_1/0 <u>1</u>	Initial status*1	Function
COM0-3	00.0	A	. ,	Common data output pins
COM4-7/SE	G0-3	A	. ,	Common data output/segment data output pins
SEG4-49		A		Segment data output pins (See Table 18.2.1.2.)
LFRO	$ \rightarrow $	0	O (L)	Frame signal monitoring output pin
		<u>P</u>	-	LCD panel drive power supply pin
Vc2		P	-	LCD panel drive power supply pin
Vcs		P	-	LCD panel drive power supply pin
CP1		A	-	LCD voltage booster capacitor connecting pin (S1C17M31/M33/M34)
CDO		A	-	LCD voltage booster capacitor connecting pin (S1C17M31/M33/M34)
Cp2	*1:	Indicat	es the status wr	en the pin is configured for LCD8A. *2: When LCD8CTL.LCDDIS bit = 1
C17W13 Te			Jal	Table 18.2.1.1 List of LCD4A Pins
C17W13 Te	chnica	al Manu Initial s	ual tatus* ¹	Table 18.2.1.1 List of LCD4A Pins Function
C17W13 Te rror) Pin name COM0-3	chnica 1/0*1	al Manu Initial s Hi-Z / (ual tatus*1 O (L)*2 Commor	Table 18.2.1.1 List of LCD4A Pins Function 1 data output-only pins
C17W13 Te rror) Pin name COM0-3 SEG0-1	echnica 1/0*1 0 0	al Manu Initial s Hi-Z / (Hi-Z / (ual tatus*1 O (L)*2 O (L)*2 Segment	Table 18.2.1.1 List of LCD4A Pins Function data output-only pins data output-only pins (Not available in the SQFN7-48pin package)
C17W13 Te rror) Pin name COM0–3 SEG0–1 SEG2–7	echnica 1/0*1 0 0	Initial s Hi-Z / (Hi-Z / (Hi-Z / (ual <u>tatus*1</u> O (L)*2 Commor O (L)*2 Segment O (L)*2 Segment	Table 18.2.1.1 List of LCD4A Pins Function data output-only pins data output-only pins data output-only pins data output-only pins
C17W13 Te rror) Pin name COM0–3 SEG0–1 SEG2–7 SEG8–19	I/0*1 0 0 0	Initial s Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (tatus*1 O (L)*2 O (L)*2 O (L)*2 Segment O (L)*2 Segment O (L)*2 Segment O (L)*2	Table 18.2.1.1 List of LCD4A Pins Function n data output-only pins a data output-only pins b data output-only pins b data output-only pins c data output-only pins purpose IO/segment data output pins
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21	echnica 0 0 0	al Manu Initial s Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (tatus*1 O (L)*2 O (L)*2 O (L)*2 Segment O (L)*2 Segment O (L)*2 Segment O (L)*2 Segment O (L)*2	Table 18.2.1.1 List of LCD4A Pins Function data output-only pins data output-only pins data output-only pins data output-only pins purpose IO/segment data output pins data output-only pins (Not available in the 48-pin package)
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25	echnica 0 0 0 0	Initial s Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0	tatus*1 O (L)*2 Commor O (L)*2 Segment O (L)*2 General- O (L)*2 Segment O (L)*2 Segment O (L)*2 General- O (L)*2	Table 18.2.1.1 List of LCD4A Pins Function n data output-only pins a data output-only pins a data output-only pins a data output-only pins purpose IO/segment data output pins a data output-only pins (Not available in the 48-pin package) a data output-only pins purpose IO/segment data output pins purpose IO/segment data output pins (Not available in the 48-pin package)
C17W13 Te ror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25 LFRO	I/O*1 0 0 0 0 0 0	Initial s Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0	tatus*1 O (L)*2 Commor O (L)*2 Segment O (L)*2 General- O (L)*2 Segment O (L)*2 General- D) Frame si	Table 18.2.1.1 List of LCD4A Pins Function n data output-only pins a data output-only pins a data output-only pins purpose IO/segment data output pins a data output-only pins (Not available in the 48-pin package) a data output-only pins purpose IO/segment data output pins a data output-only pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the 7QFP12-48pin package) gnal monitoring output pin (Not available in the TQFP12-48pin package)
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25 LFRO Vc1	I/O*1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Initial s Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 	tatus*1 O (L)*2 O (L)*2 Commor O (L)*2 Segment O (L)*2 Segment O (L)*2 General- O (L)*2 General- C (L)*2 Gen	Table 18.2.1.1 List of LCD4A Pins Function a data output-only pins a data output-only pins a data output-only pins a data output-only pins b data output-only pins b data output-only pins c data output-only pins purpose IO/segment data output pins c data output-only pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the TQFP12-48pin package) gnal monitoring output pin (Not available in the TQFP12-48pin package) el drive power supply pin
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25 LFRO Vc1 Vc2	I/O*1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Initial s Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (- - -	tatus*1 O (L)*2 O (L)*2 O (L)*2 O (L)*2 Segment O (L)*2 Segment O (L)*2 General- O (L)*2 General- C (L)*2 Ge	Table 18.2.1.1 List of LCD4A Pins Function n data output-only pins c data output-only pins c data output-only pins purpose IO/segment data output pins c data output-only pins (Not available in the 48-pin package) c data output-only pins purpose IO/segment data output pins c data output-only pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the TQFP12-48pin package) gnal monitoring output pin (Not available in the TQFP12-48pin package) el drive power supply pin el drive power supply pin
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25 LFRO Vc1 Vc2 Vc3	echnica 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Initial s Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 	tatus*1 O (L)*2 O (L)*2 O (L)*2 O (L)*2 Segment O (L)*2 Segment O (L)*2 General- O (L)*2 General- C (L)*2 Ge	Table 18.2.1.1 List of LCD4A Pins Function a data output-only pins a data output-only pins a data output-only pins a data output-only pins purpose IO/segment data output pins a data output-only pins (Not available in the 48-pin package) a data output-only pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the TQFP12-48pin package) gnal monitoring output pin (Not available in the TQFP12-48pin package) el drive power supply pin el drive power supply pin el drive power supply pin
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25 LFRO Vc1 Vc2	I/O*1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Initial s Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (Hi-Z / (- - -	tatus*1 O (L)*2 O (L)*2 Commor O (L)*2 Segment O (L)*2 Segment	Table 18.2.1.1 List of LCD4A Pins Function a data output-only pins a data output-only pins a data output-only pins a data output-only pins b data output-only pins b data output-only pins c data output-only pins purpose IO/segment data output pins c data output-only pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the TQFP12-48pin package) gnal monitoring output pin (Not available in the TQFP12-48pin package) el drive power supply pin el drive power supply pin el drive power supply pin age booster capacitor connecting pin
C17W13 Te rror) Pin name COM0-3 SEG0-1 SEG2-7 SEG8-19 SEG20-21 SEG22-25 LFRO Vc1 Vc2 Vc3	echnica 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Initial s Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 Hi-Z / 0 	tatus*1 O (L)*2 O (L)*2 O (L)*2 Segment O (L)*2 Segment Segmen	Table 18.2.1.1 List of LCD4A Pins Function a data output-only pins a data output-only pins a data output-only pins a data output-only pins purpose IO/segment data output pins a data output-only pins (Not available in the 48-pin package) a data output-only pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the 48-pin package) purpose IO/segment data output pins (Not available in the TQFP12-48pin package) gnal monitoring output pin (Not available in the TQFP12-48pin package) el drive power supply pin el drive power supply pin el drive power supply pin

(Correct)				
. <u> </u>				Table 18.2.1.1 List of LCD4A Pins
		Initial s		Function
	+			on data output-only pins
	+		, / ×	nt data output-only pins (Not available in the SQFN7-48pin package)
				ent data output-only pins
	+			al-purpose IO/segment data output pins
	+			ent data output-only pins (Not available in the 48-pin package)
SEG22-25	A	Hi-Z/(O (L)*2 Genera	al-purpose IO/segment data output pins (Not available in the 48-pin package)
LFRO	0	0 (L) Frame	signal monitoring output pin (Not available in the TQFP12-48pin package)
Vc1	Ρ	-	LCD pa	anel drive power supply pin
VC2	Ρ	-	LCD pa	anel drive power supply pin
Vc3	Ρ	-	LCD pa	anel drive power supply pin
CP1	Α	_		oltage booster capacitor connecting pin
			(Not av	vailable in the TQFP12-48pin package)
CP2	Α	_	LCD vo	oltage booster capacitor connecting pin
				vailable in the TQFP12-48pin package)
LI	*1	· Indica		when the pin is configured for LCD4A. *2: When LCD4CTL.LCDDIS bit = 1
S1C17W14/W16	6 Tec	chnical	Manual	
(Error)				
				Table 18.2.1.1 List of LCD8B Pins
Pin name		I/O+1	Initial status*1	Function
COM0-3				
		0		Common data output-only pin
COM4-7/SEG0		0		Common data output/segment data output pin
SEG4-41(W14) SEG4-46(W16)	· .	0	Hi-Z / O (L)*2	Segment data output-only pin
SEG42-53(W14 SEG47-59(W16		0	Hi-Z / O (L)*2	General-purpose IO/segment data output pin
LFRO		0	O (L)	Frame signal monitoring output pin
Vc1		Р	-	LCD panel drive power supply pin
Vc2		Р	_	LCD panel drive power supply pin
Vcз		Р	_	LCD panel drive power supply pin
CP1		A	_	LCD voltage booster capacitor connecting pin
CP2		A	_	LCD voltage booster capacitor connecting pin
OP2				
(Correct)	*1.			when the pin is configured for LCD8B. *2: When LCD8CTL.LCDDIS bit = 1
				Table 18.2.1.1 List of LCD8B Pins
Pin name		I/0 ¹	Initial status*1	Function
COM0-3		_" <u>O</u>		Common data output-only pin
COM4-7/SEG0	0-3	A		Common data output/segment data output pin
SEG4-41(W14)				Segment data output-only pin
SEG4-46(W14)	· .	A		orginent data output only pin
SEG42-53(W14	-)		General-purpose IO/segment data output pin
			Π-Z / U (L)*2	deneral-purpose to/segment data output pin
SEG47-59(W16	0)	A	0.45	Former stored an other to the store
LFRO		0	O (L)	Frame signal monitoring output pin
Vc1		Р	-	LCD panel drive power supply pin
Vc2		Р	-	LCD panel drive power supply pin
Vсз		Р	-	LCD panel drive power supply pin
CP1		Α	_	LCD voltage booster capacitor connecting pin
CP2		Α	-	LCD voltage booster capacitor connecting pin
	*1:	Indicate	es the status v	when the pin is configured for LCD8B. *2: When LCD8CTL.LCDDIS bit = 1

rror)			
			Table 17.2.1.1 List of LCD8B Pins
Pin name	I/O*1	Initial status*1	Function
COM0-3	0		Common data output-only pin
COM4-7/SEG0-3	0		Common data output/segment data output pin
SEG4-15	0		Segment data output-only pin
SEG16-23	0	O (L)	General-purpose IO/segment data output pin
SEG24-27	0		Segment data output-only pin (Not available in the 64-pin package)
SEG28-29	0		Segment data output-only pin (Not available in the 64-pin/80-pin package)
SEG30-33	0	Hi-Z / O (L)*2	Segment data output-only pin (Not available in the 64-pin package)
Vc1	P	-	LCD panel drive power supply pin
Vc2	P	-	LCD panel drive power supply pin
Vc3	P	-	LCD panel drive power supply pin
Vc4	P	-	LCD panel drive power supply pin
CP1	A	-	LCD voltage booster capacitor connecting pin
CP2	A	_	LCD voltage booster capacitor connecting pin LCD voltage booster capacitor connecting pin
Cp3 Cp4	A	-	LCD voltage booster capacitor connecting pin
UP4	A	-	LCD voltage booster capacitor connecting pin
orrect)			
			Table 17.2.1.1 List of LCD8B Pins
Pin name		Initial status*1	Function
Pin name COM0-3	A)	Hi-Z / O (L)*2	Function Common data output-only pin
Pin name COM0-3 COM4-7/SEG0-3	A) A)	Hi-Z / O (L)*2 Hi-Z / O (L)*2	Function Common data output-only pin Common data output/segment data output pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15	A) A) A)	Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23	A) A) A) A)	Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L)	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27	A) A) A) A) A)	Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) Hi-Z / O (L)*2	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package)
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29	A) A) A) A) A) A) A)	$\begin{array}{c} \text{Hi-Z} \ / \ O \ (L)^{*2} \\ \text{Hi-Z} \ / \ O \ (L)^{*2} \\ \text{Hi-Z} \ / \ O \ (L)^{*2} \\ \hline O \ (L) \\ \text{Hi-Z} \ / \ O \ (L)^{*2} \\ \text{Hi-Z} \ / \ O \ (L)^{*2} \end{array}$	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package)
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33	A) A) A) A) A)	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ²	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package)
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33 Vc1	A) A) A) A) A) A) A)	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ²	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33 Vc1 Vc2	A) A) A) A) A) A) A) A) P	Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 -	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) LCD panel drive power supply pin LCD panel drive power supply pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33 Vc1 Vc2 Vc3	A) A) A) A) A) A) A) P P P	Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 O (L) Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2 -	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33 Vc1 Vc2 Vc3 Vc4	A) A) A) A) A) A) A) A) P P	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² - - -	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) LCD panel drive power supply pin LCD panel drive power supply pin LCD panel drive power supply pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1	A) A) A) A) A) A) A) A) P P P P	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² - - - -	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) LCD panel drive power supply pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33	A) A) A) A) A) A) A) P P P A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² - - - - - -	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3	A) A) A) A) A) A) P P P P P A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD post drive power supply pin LCD voltage booster capacitor connecting pin
COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG28-29 SEG30-33 Vc1 Vc2 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD voltage booster capacitor connecting pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD power supply pin LCD voltage booster capacitor connecting pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD power supply pin LCD voltage booster capacitor connecting pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD power supply pin LCD voltage booster capacitor connecting pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD power supply pin LCD voltage booster capacitor connecting pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD power supply pin LCD voltage booster capacitor connecting pin
Pin name COM0-3 COM4-7/SEG0-3 SEG4-15 SEG16-23 SEG24-27 SEG30-33 Vc1 Vc2 Vc3 Vc4 CP1 CP2 CP3 CP4	A) A) A) A) A) A) A) A) P P P P A A A A A A	Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² O (L) Hi-Z / O (L)* ² Hi-Z / O (L)* ² Hi-Z / O (L)* ² 	Function Common data output-only pin Common data output/segment data output pin Segment data output-only pin General-purpose IO/segment data output pin Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin/80-pin package) Segment data output-only pin (Not available in the 64-pin package) LCD panel drive power supply pin LCD power supply pin LCD voltage booster capacitor connecting pin

COM0-3 COM4-7/SEG0-3 SEG4-23 SEG24-27 SEG28-34 SEG35-38 SEG39-47 LFRO	I/O*1 0 0 0 0 0 0	Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2	Table 18.2.1.1 List of LCD8B Pins Function General-purpose IO/Common data output-only pin General-purpose IO/Common data output/segment data output pin
COM0-3 COM4-7/SEG0-3 SEG4-23 SEG24-27 SEG28-34 SEG35-38 SEG35-38 SEG39-47 LFRO	0 0 0 0 0	Hi-Z / O (L)*2 Hi-Z / O (L)*2 Hi-Z / O (L)*2	General-purpose IO/Common data output-only pin
COM4-7/SEG0-3 SEG4-23 SEG24-27 SEG28-34 SEG35-38 SEG39-47 LFRO	0 0 0 0	Hi-Z / O (L)*2 Hi-Z / O (L)*2	
SEG4-23 SEG24-27 SEG28-34 SEG35-38 SEG39-47 LFRO	0 0 0	Hi-Z / O (L)*2	
SEG24-27 SEG28-34 SEG35-38 SEG39-47 LFRO	0 0 0		General-purpose IO/segment data output pin
SEG28-34 SEG35-38 SEG39-47 LFRO	0 0		Segment data output-only pin (Not available in the 64-pin package)
SEG35-38 SEG39-47 LFRO	0		Segment data output only pin (Not available in the 64-pin/80-pin package)
SEG39-47 LFRO			Segment data output-only pin (Not available in the 64-pin package) Segment data output-only pin (Not available in the 64-pin package)
LFRO	0		Segment data output-only pin (Not available in the 64-pin/80-pin package)
	0		
	<u>О</u> Р	O (L)	Frame signal monitoring output pin
	<u>Р</u>		LCD panel drive power supply pin
Vc2			LCD panel drive power supply pin
Vc3	P	-	LCD panel drive power supply pin
Vc4	P		LCD panel drive power supply pin
Срі	<u>A</u>	_	LCD voltage booster capacitor connecting pin
CP2	<u>A</u>		LCD voltage booster capacitor connecting pin
Срз	<u>A</u>	-	LCD voltage booster capacitor connecting pin
CP4	Α	-	LCD voltage booster capacitor connecting pin
orrect)			
			Table 18.2.1.1 List of LCD8B Pins
Pin name	I/O1	Initial status*1	Function
COM0-3	A	Hi-Z / O (L)*2	General-purpose IO/Common data output-only pin
COM4-7/SEG0-3	A	Hi-Z / O (L)*2	General-purpose IO/Common data output/segment data output pin
SEG4-23	A	Hi-Z / O (L)*2	General-purpose IO/segment data output pin
SEG24-27	A	Hi-Z / O (L)*2	Segment data output-only pin (Not available in the 64-pin package)
SEG28-34	A		Segment data output-only pin (Not available in the 64-pin/80-pin package)
SEG35-38	A		Segment data output-only pin (Not available in the 64-pin package)
SEG39-47	A		Segment data output-only pin (Not available in the 64-pin/80-pin package)
LFRO	0		Frame signal monitoring output pin
Vc1	P	-	LCD panel drive power supply pin
Vc2	Р	-	LCD panel drive power supply pin
	Р	_	LCD panel drive power supply pin
Vc3		_	LCD panel drive power supply pin
	Р	+	LCD voltage booster capacitor connecting pin
Vc4	P A	-	
Vc4 CP1		-	LCD voltage booster capacitor connecting pin
VC3 VC4 CP1 CP2 CP3	А	- - -	
Correct)			T

rror)				
		Table 1	8.2.1.1 Lis	st of LCD24A Pins
Pin name	I/O*1	Initia	I status*1	Function
SEG53-0	0		/ O (L)+2	Segment data output-only pin
COM7-0	0		/ O (L)*2	Common data output-only pin
SEG71-54	0		0 (L)	General-purpose IO/segment data output pin
COM23-8	0		0 (L)	General-purpose IO/common data output pin
LFRO	0		0 (L)	Frame signal monitoring output pin
Vc1	P		_	LCD panel drive power supply pin
Vc2	P		_	LCD panel drive power supply pin
Vc3	P		_	LCD panel drive power supply pin
Vc4	P		_	LCD panel drive power supply pin
CP1	A		_	LCD voltage booster capacitor connecting pin
CP2	A		_	LCD voltage booster capacitor connecting pin
Срз	A		_	LCD voltage booster capacitor connecting pin
CP4	A		_	LCD voltage booster capacitor connecting pin
				gured for LCD24A. *2: When LCD24CTL.MODEN bit = 1
Correct) Pin name	I/O ¹		8.2.1.1 Lis I status* ¹	st of LCD24A Pins
SEG53-0	A		/ O (L)*2	Segment data output-only pin
COM7-0	A		./O(L)*2	Common data output-only pin
SEG71-54	A		0 (L)	General-purpose IO/segment data output pin
COM23-8	A		0 (L) 0 (L)	General-purpose IO/common data output pin
LFRO	0		0 (L) 0 (L)	Frame signal monitoring output pin
Vc1	0		–	LCD panel drive power supply pin
VC1 VC2	P		_	LCD panel drive power supply pin
VC2 VC3	<u></u> Р		-	LCD panel drive power supply pin
VC3 VC4	<u>Р</u>		-	
			-	LCD panel drive power supply pin
CP1	<u>A</u>		-	LCD voltage booster capacitor connecting pin
CP2	A		-	LCD voltage booster capacitor connecting pin
Срз	<u>A</u>		-	LCD voltage booster capacitor connecting pin
CP4	Α		-	LCD voltage booster capacitor connecting pin
			pin is confi	gured for LCD24A. *2: When LCD24CTL.MODEN bit = 1
1C17W34/W35/W30	3 Technical	Manual		
Error)				
				st of LCD32B Pins
Pin name	I/O*1	Initial status*1		Function
COM0-15	0			data output-only pins
SEG0-15/COM16-3	1 0			data output/common data output pins
SEG16-63	0	Hi-Z / O (L)*2	Segment	data output-only pin
SEG64-79/COM31-	16 O	Hi-Z / O (L)*2	Segment	data output/common data output pins
LFRO	0	O (L)		nal monitoring output pin
	Р	-	LCD pane	I drive power supply pins
Vc1-Vc5	Α	-	-	ge booster capacitor connecting pins
	A			igured for LCD32B. *2: When LCD32CTL.LCDDIS bit =
Cp1-Cp5		atus when the	pin is cont	
Cp1-Cp5		atus when the	pin is conf	
CP1-CP5 *1: Indi			-	st of LCD32B Pins
CP1-CP5 *1: Indi		Table 1	8.2.1.1 Li	st of LCD32B Pins Function
CP1-CP5 *1: Indi Correct) Pin name	cates the st	Table 1	8.2.1.1 Li	st of LCD32B Pins
CP1-CP5 *1: Indi Correct) Pin name COM0-15	cates the st	Table 1 Initial status*1 Hi-Z / O (L)*2	8.2.1.1 Li Common	st of LCD32B Pins Function
<u>CP1-CP5</u> *1: Indi Correct) <u>Pin name</u> COM0-15 SEG0-15/COM16-3	cates the st	Table 1 Initial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	8.2.1.1 Li Common Segment	st of LCD32B Pins Function data output-only pins data output/common data output pins
<u>CP1-CP5</u> *1: Indi Correct) <u>Pin name</u> COM0-15 SEG0-15/COM16-3 SEG16-63	II/O ¹	Table 1 Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	8.2.1.1 Li Common Segment Segment	st of LCD32B Pins Function data output-only pins data output/common data output pins data output-only pin
CP1-CP5 *1: Indi Correct) Pin name COM0-15 SEG0-15/COM16-3 SEG16-63 SEG64-79/COM31-	II/O1 A 1 A A 1 A A 1 A A A 16 A ¹	Table 1 Initial status ¹¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	8.2.1.1 Li Common Segment Segment Segment	st of LCD32B Pins Function data output-only pins data output/common data output pins data output-only pin data output/common data output pins
<u>CP1-CP5</u> *1: Indi Correct) <u>Pin name</u> COM0-15 SEG0-15/COM16-3 SEG16-63 SEG64-79/COM31- LFRO	II/O1 A	Table 1 Initial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	8.2.1.1 Li Common Segment Segment Segment Frame sig	st of LCD32B Pins Function data output-only pins data output/common data output pins data output-only pin data output/common data output pins nal monitoring output pin
Correct)	II/O1 A 1 A A 1 A A 1 A A A 16 A ¹	Table 1 Initial status ¹¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	8.2.1.1 Li Common Segment Segment Segment Frame sig LCD pane	st of LCD32B Pins Function data output-only pins data output/common data output pins data output-only pin data output/common data output pins

COM0-3 O H COM4-7/SEG0-3 O H SEG4-33 O H _FRO O H	hitial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	Table 17.2.1.1 List of LCD8A Pins Function Common data output pin
COM0-3 O H COM4-7/SEG0-3 O H SEG4-33 O H _FRO O H	Hi-Z / O (L)*² Hi-Z / O (L)*²	
COM4-7/SEG0-3 O H SEG4-33 O H LFRO O	Hi-Z / O (L)*2	Common data output pin
SEG4-33 O H LFRO O		
LFRO O	$\Box = 7 / 0 / 1_{22}$	Common data output/segment data output pin
	⊓I-Z / U (L)*²	Segment data output pin
	O (L)	Frame signal monitoring output pin
Vc1 P	-	LCD panel drive power supply pin
Vc2 P	-	LCD panel drive power supply pin
Vc3 P	-	LCD panel drive power supply pin
CP1 A	-	LCD voltage booster capacitor connecting pin
CP2 A	-	LCD voltage booster capacitor connecting pin
Correct)		
		Table 17.2.1.1 List of LCD8A Pins
Pin name I/O ^{:1} Ir	Initial status*1	Function
Pin name I/O ¹ Ir COM0-3 A) H	Initial status⁺¹ Hi-Z / O (L)⁺²	Function Common data output pin
Pin name I/O ¹ Ir COM0-3 A) H COM4-7/SEG0-3 A) H	hitial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	Function Common data output pin Common data output/segment data output pin
Pin name I/O ¹ Ir COM0-3 A) H COM4-7/SEG0-3 A) H SEG4-33 A) H	nitial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	Function Common data output pin Common data output/segment data output pin Segment data output pin
Pin name I/O ¹ Ir COM0-3 A) H COM4-7/SEG0-3 A) H SEG4-33 A) H LFRO O O	hitial status*1 Hi-Z / O (L)*2 Hi-Z / O (L)*2	Function Common data output pin Common data output/segment data output pin Segment data output pin Frame signal monitoring output pin
COM0-3 A) H COM4-7/SEG0-3 A) H SEG4-33 A) H LFRO O Vc1	nitial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	Function Common data output pin Common data output/segment data output pin Segment data output pin Frame signal monitoring output pin LCD panel drive power supply pin
Pin name I/O ⁻¹ Ir COM0-3 A) H COM4-7/SEG0-3 A) H SEG4-33 A) H LFRO O Vc1 Vc2 P Vc2	nitial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	Function Common data output pin Common data output/segment data output pin Segment data output pin Frame signal monitoring output pin LCD panel drive power supply pin LCD panel drive power supply pin
Pin name I/O ⁻¹ Ir COM0-3 A) H COM4-7/SEG0-3 A) H SEG4-33 A) H LFRO O Vc1 Vc2 P Vc3	nitial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	Function Common data output pin Common data output/segment data output pin Segment data output pin Frame signal monitoring output pin LCD panel drive power supply pin
Pin name I/O ⁻¹ Ir COM0-3 A) H COM4-7/SEG0-3 A) H SEG4-33 A) H LFRO O Vc1 Vc2 P Vc2	nitial status ⁺¹ Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺² Hi-Z / O (L) ⁺²	Function Common data output pin Common data output/segment data output pin Segment data output pin Frame signal monitoring output pin LCD panel drive power supply pin LCD panel drive power supply pin

S1C17 Manual errata

ITEM: Treatment of exposed	die pad	1	
Object manuals	Document codes	Items	Pages
S1C17M01 Technical Manual	412361601	6.7.7 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-16 AP-A-9
S1C17M10 Technical Manual	413180100	6.7.5 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-15 AP-A-9
S1C17M12/M13 Technical Manual	413454200	6.7.6 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-16 AP-A-7
S1C17M30/M31/M32/M33/M34 Technical Manual	413495501	6.7.9 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-31 AP-A-23
S1C17W03/W04 Technical Manual	412924900	6.7.6 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-16 AP-A-10
S1C17W13 Technical Manual	413180301	6.7.6 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-17 AP-A-10
S1C17W14/W16 Technical Manual	412910200	6.7.6 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-17 AP-A-11
S1C17W15 Technical Manual	412645602	6.7.5 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-14 AP-A-9
S1C17W18 Technical Manual	413129501	6.7.10 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-20 AP-A-12
S1C17W22/W23 Technical Manual	412690302	6.7.6 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-16 AP-A-10

S1C17W34/W35/W36 Technical Manual	413237401	6.7.7 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-17 AP-A-8
S7C17M11 Technical Manual	413393800	6.7.7 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6–17 AP-A-8
S1C17589 Technical Manual	412959000	6.7.12 Pd Port Group Appendix A List of Peripheral Circuit Control Registers	6-22 AP-A-7

PDIOEN	15-13	-	0x00	-	R	-
(PD Port Enable	12-8	PDIEN[4:3]	0x0	H0	R/W	
Register)	10	(reserved)	0	H0	R/W	
	9-8	PDIEN[1:0]	0x0	H0	R/W	
	7-5	-	0x00	-	R	
	4-3	PDOEN[4:3]	0x0	H0	R/W	
	2	(reserved)	0	H0	R/W	
					D (14)	
	1-0	PDOEN[1:0]	0x0	H0	R/W	
(Correct)						
PDIOEN	15-13	-	0x00	_	R	
PDIOEN (PD Port Enable	<u>15-13</u> 12-8	- PDIEN[4:3]	0x00 0x0	– H0	R R/W	
PDIOEN	15-13	– PDIEN[4:3] (reserved)	0x00	_	R	
PDIOEN (PD Port Enable	15-13 12-8 10	- PDIEN[4:3]	0x00 0x0 0	– H0 H0	R R/W R/W	-

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Object manuals	Document codes	Items	Pages
S1C17W03/W04		10.4.1 SVD Control	
Technical Manual	412925001	10.4.1 SVD Control	10-3
S1C17W13 Technical Manual	413180401	10.4.1 SVD Control	10-3
S1C17W14/W16	412910300	10.4.1 SVD Control	10-3
Technical Manual			
S1C17W15 Technical Manual	412645702	10.4.1 SVD Control	10-3
S1C17W18 Technical Manual	413129601	10.4.1 SVD Control	10-3
S1C17W22/W23	412690402	10.4.1 SVD Control	10-3
Technical Manual			
S1C17W34/W35/W36	413237901	10.4.1 SVD Control	10-3
Technical Manual			
S1C17M01 Technical Manual	412361701	9.4.1 SVD Control	9-3
S1C17M10 Technical Manual	413180200	10.4.1 SVD3 Control	10-3
S7C17M11 Technical Manual	413393900	9.4.1 SVD3 Control	9-3
S1C17589 Technical Manual	412959200	10.4.1 SVD Control	10-3
S1C17M10 Technical Manual, S	S7C17M11 Technica	al Manual	i
(Error)			
4. Set the following bits whe	en using the inter	rupt:	
- Write 1 to the SVDINTF.	SVDIF bit. (Clear	interrupt flag)	
- Set the SVDINTE.SDVIE	bit to 1. (Enable	SVD3 interrupt)	
(Correct)			
4. Set the following bits whe	en using the inter	rupt:	
- Write 1 to the SVDINTF.	SVDIF bit. (Clear	interrupt flag)	
- Set the SVDINTE. <u>SVDIE</u>	bit to 1. (Enable	SVD3 interrupt)	

(Error)

- 4. Set the following bits when using the interrupt:
- Write 1 to the SVDINTF.SVDIF bit. (Clear interrupt flag)
- Set the SVDINTE.SDVIE bit to 1. (Enable SVD interrupt)

(Correct)

- 4. Set the following bits when using the interrupt:
- Write 1 to the SVDINTF.SVDIF bit. (Clear interrupt flag)
- Set the SVDINTE.<u>SVDIE</u> bit to 1. (Enable SVD interrupt)

errata_c17w34-35-36_6 are revised.

Dbject manual	Doc	ument code	Object item			Р	age
			23.2 Recommended	Operati	ng	2	3-1
			Conditions			2	3-18
S1C17W18 Technical Manual		413129601	23.15 Temperature S	ensor/			
		410120001		011301/			
			Reference Voltage				
			Generator(TSRVR) C	haract	eristics		
			23.2 Recommended	Operati	ng	2	3-1
			Conditions			2	3-16
1C17W34/W35/W36		440007004		'oncor'			-
echnical Manual		413237901	23.15 Temperature S	ensor/			
			Reference Voltage				
			Generator(TSRVR) C	haract	eristics		
Error) 23.2 Recommende	od Op	erating C	Conditions				
Item	Symbol	For pormal oporati	Condition	Min.	Тур.	Max.	Unit
	1100	i sor pormal oporati	AD .			26	1 17
Capacitor between Vss and VPP	CVPP			-	0.1	-	μF
Capacitor between Vss and VREFA		*6		-	1	-	uF

23.15 Temperature Sensor/Reference Voltage Generator (TSRVR) Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
VREFA (2.5 V) output voltage	Vvo25	VDD = 2.7 to 3.6 V, Iload = 0 µA	2.4	2.5	2.6	V
VREFA (2.0 V) output voltage	Vvo20	VDD = 2.2 to 3.6 V, Iload = 0 µA	1.9	2.0	2.1	V
Vrefa (Vdd) output voltage	Vvodd	VDD = 1.8 to 3.6 V, Iload = 0 µA	Vdd - 0.1	Vdd	VDD + 0.1	V
VREFA (2.5/2.0 V) operating current	Ivo1	VDD = 3.6 V, Ta = 25 °C, Iload = 0 µA	25	40	55	μA
VREFA (VDD) operating current	Ivo2	VDD = 3.6 V, Ta = 25 °C, Iload = 0 µA	-	0.0	0.1	μA
VREFA output voltage stabilization time	TVREFA	CVREFA = 1 µF	-	-	200	μs
Temperature sensor output voltage	VTEMP	VDD = 2.2 to 3.6 V, Ta = 25 °C	1.04	1.07	1.1	V
Temperature sensor output voltage temperature coefficient	ΔVtemp	VDD = 2.2 to 3.6 V	-	3.6 ± 3%	3.7 ± 6%	mV/°C
Temperature sensor operating current	IVTEMP	VDD = 3.6 V, Ta = 25 °C	10	16	22	μA
Temperature sensor output stabilization time	TEMP		_	_	200	us

(Correct)

23.2 Recommended Operating Conditions

Item	Symbol	Condition	Min.	Тур.	Max.	Unit
Powor supply voltage	Voo	For normal operation	10		36	M
Capacitor between Vss and Vpp	CVPP		-	0.1	-	μF

*1 The Cv1-Cv2 pins can be left open when super economy mode is not used.
*2 The Vc1-Vc4 and CP1-CP4 pins can be left open when the LCD driver is not used.

23.15 Temperature Sensor/Reference Voltage Generator (TSRVR) Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
VREFA (2.5 V) output voltage	Vvo25	VDD = 2.7 to 3.6 V, Iload = 0 µA	2.4	2.5	2.6	V
VREFA (2.0 V) output voltage	Vvo20	VDD = 2.2 to 3.6 V, Iload = 0 µA	1.9	2.0	2.1	V
Vrefa (Vdd) output voltage	Vvodd	VDD = 1.8 to 3.6 V, Iload = 0 µA	Vdd - 0.1	Vdd	VDD + 0.1	V
VREFA (2.5/2.0 V) operating current	Ivo1	VDD = 3.6 V, Ta = 25 °C, Iload = 0 µA	25	40	55	μA
VREFA (VDD) operating current	Ivo2	VDD = 3.6 V, Ta = 25 °C, Iload = 0 µA	-	0.0	0.1	μA
VREFA output voltage stabilization time	t VREFA	CVREFA = 0.1uF	-	1.5	5	ms
Temperature sensor output voltage	VTEMP	VDD = 2.2 to 3.6 V, Ta = 25 °C	1.04	1.07	1.1	V
Temperature sensor output voltage temperature coefficient	ΔV temp	VDD = 2.2 to 3.6 V	-	3.6 ± 3%	3.7 ± 6%	mV/°C
Temperature sensor operating current	IVTEMP	VDD = 3.6 V, Ta = 25 °C	10	16	22	μA
Temperature sensor output stabilization time	TTEMP		-	_	200	μs

ITEM 16bits PWM timer (T16B)			
Object manual	Document code	Object item	Page
S1C17589 Technical Manual	412959200	16bits PWM timer (T16B)	15-5
S1C17M10 Technical Manul	413180200		16-5
S1C17W03/W04Technical manual	412925001		15-5
S1C17W13 Technical Manual	413180401		15-5
S1C17W14/16Technical Manual	412910300		15-5
S1C17W15Technical Manual	412645702		15-5
S1C17W18Technical Manual	413129601		15-5
S1C17W22/W23 Technical Manual	412690402		15-5
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S7C17M11 Technical Manual	413393900		15-5

1.1 Features

(Error)

MAX counter data register

The MAX counter data register (T16BnMC.MC[15:0] bits) is used to set the maximum value of the counter (hereafter referred to as MAX value). This setting limits the count range to 0x0000–MAX value and determines the count and interrupt cycles. When the counter is set to repeat mode, the MAX value can be rewritten in the procedure shown below even if the counter is running.

- 1. Check to see if the T16BnCTL.MAXBSY bit is set to 0.
- 2. Write the MAX value to the T16BnMC.MC[15:0] bits.

(Correct)

Add note statement (underlined).

MAX counter data register

The MAX counter data register (T16BnMC.MC[15:0] bits) is used to set the maximum value of the counter (hereafter referred to as MAX value). This setting limits the count range to 0x0000–MAX value and determines the count and interrupt cycles. When the counter is set to repeat mode, the MAX value can be rewritten in the procedure shown below even if the counter is running.

- 1. Check to see if the T16BnCTL.MAXBSY bit is set to 0.
- 2. Write the MAX value to the T16BnMC.MC[15:0] bits.

Note: When rewriting the MAX value, the new MAX value should be written after the counter has been reset to

the previously set MAX value.

ject manual		Document code	Object ite	m			Page
C17W34/W35/W36		413237901	18.8 Cont	rol Regist	er		18-26
echnical Manual						Characteristic	23-11
			Appendix	A List of F	Peripheral	Circuit Control Registers	23-12
							AP-A-25
8-26							
Error)		· · · · · · · · · · · · · · · · · · ·					
Register name	Bit	Bit name	Initial	Reset	R/W	Remarks	
LCD32PWR	15	EXVCSEL	1	H0	R/W	-	
	14-12		0x0	-	R		
	11-8	LC[3:0]	0x0	H0	R/W		
	7–5	-	0x0	-	R		
	4	BSTEN	0	H0	R/W		
	3	BIASSEL	1	H0	R/W		
	2	HVLD	0	H0	R/W		
	1	-	0	-	R		
	0	VCEN	0	H0	R/W		
Correct)							
Register name	Bit	Bit name	Initial	Reset	R/W	Remarks	
LCD32PWR	15 I	EXVCSEL	1	H0	R/W	-	
	14-12 -	-	0x0	-	R		
	11–8 I	_C[3:0]	0x0	H0	R/W]	
	7-5 -	-	0x0	-	R]	
	4 1	BSTEN	0	H0	R/W]	
	3 1	BIASSEL	0	H0	R/W]	
	2	HVLD	0	H0	R/W]	
-	1 -	-	0	-	R]	
			0	H0	R/W	-	

Error)						
Item	Symbol	Condition	Min.	Тур.	Max.	Uni
CD drive voltage (1/4 bias)	Vc1	Connect 1 M Ω load resistor between VDD and Vc1	0.23×	-	0.27×	V
CD32PWR.BIASSEL bit = 0			Vc4 (Typ.)		Vc4 (Typ.)	
	Vc2	Connect 1 M Ω load resistor between Vss and Vc2	0.48×	-	0.52×	V
			Vc4 (Typ.)		Vc4 (Typ.)	
	Vc3	Connect 1 M Ω load resistor between Vss and Vcs	0.74×	-	0.78×	V
	ļ		Vc4 (Typ.)		Vc4 (Typ.)	
1	Symbol	Condition		Tvp		Uni
Item	Symbol		Min.	Typ.	Max.	Uni
Item CD drive voltage (1/4 bias)	Symbol Vc1	Condition Connect 1 MΩ load resistor between Vpp and Vc1	Min. 0.23 ×	Тур.	Max. 0.27 ×	
Item CD drive voltage (1/4 bias)			Min.	Typ. -	Max.	
Item CD drive voltage (1/4 bias)	Vc1	Connect 1 M Ω load resistor between VDD and Vc1	Min. 0.23 × Vc₄ (Typ.)	-	Max. 0.27 × Vc4 (Typ.)	V
Correct) Item CD drive voltage (1/4 bias) CD32PWR.BIASSEL bit = 1	Vc1	Connect 1 M Ω load resistor between VDD and Vc1	Min. 0.23 × Vc4 (Typ.) 0.48 ×	-	Max. 0.27 × Vc4 (Typ.) 0.52 ×	V

Item	Symbol	Condition	Min.	Тур.	Max.	Unit
LCD drive voltage (1/5 bias)	Vc1	Connect 1 M Ω load resistor between VDD and Vc1	0.18×	-	0.22 ×	V
LCD32PWR.BIASSEL bit = 1			Vcs (Typ.)		Vcs (Typ.)	
	Vc2	Connect 1 M Ω load resistor between Vss and Vc2	0.38×	-	0.42 ×	V
			Vcs (Typ.)		Vcs (Typ.)	
	Vc3	Connect 1 M Ω load resistor between Vss and Vcs	0.58×	-	$0.62 \times$	V
			Vcs (Typ.)		Vcs (Typ.)	
,	Symbol	Condition	Min	Typ	Max.	Uni
				iyp.		
		Connect 1 MI22 load resistor between VDD and VC1		-		V
LOD32PWR.BIASSEL DIT = 0	Vc2	Connect 1 M Ω load resistor between Vss and Vc2	0.38 ×		Vc₅ (Typ.) 0.42 ×	v
	VG2	Connect 1 Misz load resistor between vss and vc2		-	0.42 × Vc5 (Typ.)	v
	Vca	Connect 1 MΩ load resistor between Vss and Vcs	Vc₅(Typ.) 0.58×	_	0.62 ×	v
	Symbol Vc1	Condition Connect 1 MΩ load resistor between Vpp and Vc1	Min. 0.18 × Vc5 (Typ.)	Тур.	0.2	22 ×

Error)						
LCD circuit current (1/4 bias)	ILCD	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern),	-	3.8	6	μA
		LCD32PWR.BIASSEL bit = 0 *1 *2				
		LCD32DSP.DSPC[1:0] bits = 0x2 (all on),	-	1.8	3	μA
		LCD32PWR.BIASSEL bit = 0 *1 *2				
LCD circuit current (1/5 bias)	ILCD	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern),	-	5	8	μA
		LCD32PWR.BIASSEL bit = 1 *1 *2				
		LCD32DSP.DSPC[1:0] bits = 0x2 (all on),	-	2.8	4.5	μA
		LCD32PWR.BIASSEL bit = 1 *1 *2				
LCD circuit current	ILCDH	LCD32DSP.DSPC[1:0] bits = 0x2 (all on),	-	17	26	μA
n heavy load protection		LCD32PWR.BIASSEL bit = 0,				
mode (1/4 bias)		LCD32PWR.HVLD bit = 1 *1 *2				
LCD circuit current	ILCDH	LCD32DSP.DSPC[1:0] bits = 0x2 (all on),	-	18	27	μA
n heavy load protection		LCD32PWR.BIASSEL bit = 1,				
mode (1/5 bias)		LCD32PWR.HVLD bit = 1 *1 *2		<u> </u>		
Correct)	ILCD	LCD32PWR.HVLD bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern),		3.8	6	μΑ
Correct)	ILCD			3.8	6	μΑ
Correct)	ILCD	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on),		3.8	6	<u> </u>
Correct)	ILCD	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2				<u> </u>
Correct) _CD circuit current (1/4 bias)		LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on),				μΑ
Correct) LCD circuit current (1/4 bias)		LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 *1 *2		1.8	3	μΑ
Correct) LCD circuit current (1/4 bias)		LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern),		1.8	3	μΑ μΑ
Correct) _CD circuit current (1/4 bias)		LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 0 *1 *2	-	1.8 5	3	μΑ μΑ
Correct) LCD circuit current (1/4 bias) LCD circuit current (1/5 bias)		LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 0 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on),	-	1.8 5	3	μΑ μΑ
Correct) LCD circuit current (1/4 bias) LCD circuit current (1/5 bias) LCD circuit current	Ilod	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 0 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 0 *1 *2	-	1.8 5 2.8	3 8 4.5	μΑ μΑ
Correct) LCD circuit current (1/4 bias) LCD circuit current (1/5 bias) LCD circuit current in heavy load protection	Ilod	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = 0 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 0 *1 *2 LCD32DSP.DSPC[1:0] bits = 0x2 (all on),	-	1.8 5 2.8	3 8 4.5	μΑ μΑ
Correct) LCD circuit current (1/4 bias) LCD circuit current (1/5 bias) LCD circuit current in heavy load protection mode (1/4 bias)	Ilod	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = $1 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = $1 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = $0 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = $0 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = $0 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1,	-	1.8 5 2.8	3 8 4.5	μΑ μΑ μΑ
mode (1/5 bias) Correct) LCD circuit current (1/4 bias) LCD circuit current (1/5 bias) LCD circuit current in heavy load protection mode (1/4 bias) LCD circuit current in heavy load protection	ILCD	LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = $1 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = $1 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x1 (checker pattern), LCD32PWR.BIASSEL bit = $0 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = $0 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = $0 * 1 * 2$ LCD32DSP.DSPC[1:0] bits = 0x2 (all on), LCD32PWR.BIASSEL bit = 1 , LCD32PWR.BIASSEL bit = 1 , LCD32PWR.BIASSEL bit = $1 * 1 * 2$	-	1.8 5 2.8 17	3 8 4.5 26	μΑ μΑ μΑ μΑ μΑ

rror)						
0x5408	LCD32PWR	15	EXVCSEL	1	H0	R/W
	(LCD32B Power	14-12	-	0x0	-	R
	Control Register)	11-8	LC[3:0]	0x0	H0	R/W
		7–5	-	0x0	-	R
		4	BSTEN	0	H0	R/W
		3	BIASSEL	1	H0	R/W
		2	HVLD	0	H0	R/W
		1	-	0	-	R
		0	VCEN	0	HO	R/W
Correct) 0x5408	LCD32PWR	15	EXVCSEL		H0	R/W
	LCD32PWR (LCD32B Power	15	EXVCSEL			
		14-12	EXVCSEL	1	H0	R/W
	(LCD32B Power	14-12	EXVCSEL	1 0x0	H0 -	R/W R
	(LCD32B Power	14–12 11–8	EXVCSEL	1 0x0 0x0	H0 - H0	R/W R R/W
	(LCD32B Power	14–12 11–8 7–5	EXVCSEL - LC[3:0] -	1 0x0 0x0 0x0	H0 - H0 -	R/W R R/W R
	(LCD32B Power	14-12 11-8 7-5 4	EXVCSEL - LC[3:0] - BSTEN	1 0x0 0x0 0x0 0x0 0	H0 - H0 - H0	R/W R R/W R R/W
	(LCD32B Power	14–12 11–8 7–5 4 3	EXVCSEL - LC[3:0] - BSTEN BIASSEL	1 0x0 0x0 0x0 0 0	H0 - H0 - H0 H0	R/W R R/W R/W R/W

	-		
ITEM VDD operating voltage	for Flash programn	ning.	
Object manual	Document code	Object item	Page
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		4.3.3 Flash Programming	4-3
		21.2 Recommended	21-1
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S1C17W18 Technical Manual	413129601	1.1 Features	1-2
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		23.6 Flash Memory Characteristics	23-7
S1C17W34/W35/W36	413237901	1.1 Features	1-2
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		23.2 Recommended	23-1
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S1C17M10 Technical Manual	413180200	1.1 Features	1-2
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		19.6 Flash Memory Characteristics	19-7
1.1 Features : S1C17W13 (Error)			
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage		(VPP = 7.5 V external power supply is req	
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog	ramming 2.4 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req	
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V	ramming 2.4 to 3.6 V		
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error)	ramming 2.4 to 3.6 V		
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V		uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct)	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req	uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally)	uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct)	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req	uired.) uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally) (VPP = 7.5 V external power supply is req	uired.) uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17M10 (Error)	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally) (VPP = 7.5 V external power supply is req	uired.) uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17M10 (Error) Power supply voltage	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V 2.7 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally) (VPP = 7.5 V external power supply is req (When VPP is generated internally)	uired.) uired.) uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17M10 (Error)	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V 2.7 to 3.6 V 2.7 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally) (VPP = 7.5 V external power supply is req	uired.) uired.) uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17M10 (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog (Correct)	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V 2.7 to 3.6 V 2.7 to 3.6 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally) (VPP = 7.5 V external power supply is req (When VPP is generated internally)	uired.) uired.) uired.)
(Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17W18, S1C17V (Error) Power supply voltage VDD operating voltage for Flash prog (Correct) Power supply voltage VDD operating voltage for Flash prog 1.1 Features : S1C17M10 (Error) Power supply voltage VDD operating voltage for Flash prog	ramming 2.4 to 3.6 V W34/W35/W36 ramming 1.8 to 3.6 V 2.7 to 3.6 V ramming 2.4 to 3.6 V ramming 2.4 to 3.6 V ramming 2.4 to 3.6 V ramming 2.7 to 3.6 V ramming 2.7 to 5.5 V 2.7 to 5.5 V	(VPP = 7.5 V external power supply is req (VPP = 7.5 V external power supply is req (When VPP is generated internally) (VPP = 7.5 V external power supply is req (When VPP is generated internally)	uired.) uired.) uired.)

4.3.3 Flash Program	nming :	S1C17W13						
(Error)								
Note: The Flash p	rogramr	ning require	s a 1.8 V or higher VDD voltag	je.				
(Correct)								
Note: The Flash p	rogramr	ning require	s a 2.4 V or higher VDD voltag	je.				
4.3.3 Flash Program	nming :	S1C17W18	, S1C17W34/W35/W36					
(Error)								
Notes: • The Flash	n progra	mming requ	ires a 1.8 V or higher VDD vol	tage whe	n the VPF	voltage i	is	
supplied	externa	lly.						
(Correct)		•						
Notes: • The Flash	n progra	mming requ	ires a 2.4 V or higher VDD vol	tage whe	n the VPF	voltage i	is	
supplied	externa	lly.						
4.3.3 Flash Program								
(Error)								
	n progra	mming requ	ires a VDD voltage within 2.2 V	V to 5.5 V	when the	e VPP vol	tage is	
generated			Ū				0	
(Correct)								
. ,	n progra	mmina reau	ires a 2.4 V or higher VDD vol	tage whe	n the VPF	voltage i	is	
supplied				lage mie		voltage		
		-	uires a 2.7 V or higher VDD vo	ltage whe	n the V/P	P voltago	is genera	tod
		amming requ		nage whe		r voltage	is genera	leu
internally								
21.2 Recommende	d Opera	ting Conditi	ons : S1C17W13					
(Error)		a 191			-			
Item Power supply voltage	Symbol VDD	Condition For Flash prog	gramming	<u>Min.</u> 1.8	Тур. -	Max. 3.6	Unit V	
(Correct)			·					
Item	Symbol	Condition		Min.	Typ.	Max.	Unit	
Power supply voltage	VDD	For Flash prog	gramming	2.4	_	3.6	V	
23.2 Recommende	d Opera	ting Conditi	ons : S1C17W18, S1C17W34/	W35/W3	6			
(Error)								
Item	Symbol	Condition		Min.	Тур.	Max.	Unit	
Power supply voltage	VDD	For Flash programming	When VPP is supplied externally When VPP is generated internally	<u>1.8</u> 2.7	-	3.6 3.6	V V	
(Correct)								
Item	Symbol	Condition		Min.	Typ.	Max.	Unit	
Power supply voltage	VDD	For Flash programming	When VPP is supplied externally When VPP is generated internally	<u>2.4</u> 2.7	-	3.6 3.6	V V	
10.2 Pasammanda	d Opera		-	2.7		0.0		
19.2 Recommende	u Opera							
(Error) Item	Symbol	Condition		Min.	Typ.	Max.	Unit	
Power supply voltage	VDD	For Flash	When VPP is supplied externally	1.8	- -	5.5	V	
		programming	When VPP is generated internally	2.7	-	5.5	V	
(Correct)								
Item	Symbol	Condition		<u>Min.</u> 2.4	Тур.	Max.	Unit	
Power supply voltage	VDD	For Flash	When VPP is supplied externally	2.4		5.5	V	

21.6 Flash Memory Characteristics : S1C17W13

23.6 Flash Memory Characteristics : S1C17W18, S1C17W34/W35/W36

(Error)

Unless otherwise specified: VDD = 1.8 to 3.6 V, VSS = 0 V, Ta = -40 to 85 °C

(Correct)

Unless otherwise specified: VDD = 2.4 to 3.6 V, VSS = 0 V, Ta = -40 to 85 $^{\circ}$ C

19.6 Flash Memory Characteristics : S1C17M10

(Error)

Unless otherwise specified: VDD = 1.8 to 5.5 V, VSS = 0 V, Ta = -40 to 85 °C

(Correct)

Unless otherwise specified: VDD = 2.4 to 5.5 V, VSS = 0 V, Ta = -40 to 85 °C

ITE	EM Electrical Characte	ristics					
Ob	ject manual	Document	t code	Object ite	em		Page
S10	C17W13 Technical Manual	41318040	1	WDT2 C	rol Registers lock Control Regis K.CLKSRC[1:0]	ter	8-3
	C17W34/W35/W36 echnical Manual	41323790	1	8.4 Cont WDT2 C	rol Registers lock Control Regis <.CLKSRC[1:0]	ter	8-3
(Er	ror)						
	WDTCLK.				SRC[1:0]ビット		
	CLKDIV[1:0]ビット	0x0	<u> </u>	0x1	0x2	0x	
		IOSC	-	SC1	OSC3	EXC	
	0x3	1/65,536	1/	/128	1/65,536	1/	1
	0x2	1/32,768			1/32,768		
	0x1	1/16,384]		1/16,384		
	0x0	1/8,192]		1/8,192		
(Co	prrect)		WDT		SRC[1:0]ビット		
	WDTCLK.	0x0)x1	0x2	0x	3
	CLKDIV[1:0]ビット	IOSC		SC1	OSC3	EXO	-
	0x3	1/16,384		128	1/16,384	1/	
	0x2	1/8,192			1/8,192		
	0x1	1/4,096			1/4,096		
	0x0	1/2,048			1/2,048		

Electrical Characteristics	Deer		Ohio at its				
bject manual	Docume		Object item			Page	
1C17W18 Technical Manual	4131296	501	23.15			23-18	
			Temperature Sens				
			Voltage Generator	(TSRVR)			
			Characteristics				
1C17W34/W35/W36	4132379	901	23.15		/	23-16	
Technical Manual			Temperature Sens	or/Refere	ence		
			Voltage Generator	(TSRVR)			
			Characteristics				
Error)				/			
S1C17W18							
Item	Symbol		Condition	Min.	Тур.	Max.	Uni
VREFA (2.5 V) output voltage	Vvo25		ο 3.6 V, Iload = 0 μΑ	2.4	2.5	2.6	V
VREFA (2.0 V) output voltage	Vvo20		0 3.6 V, Iload = 0 µA	1.9	2.0	2.1	V
VREFA (VDD) output voltage	VVODD		$0.3.6 \text{ V}, \text{ lioad} = 0 \mu \text{A}$	VDD - 0.1	VDD	VDD + 0.1	V
VREFA (2.5/2.0 V) operating current VREFA (VDD) operating current	Ivo1 Ivo2		Ta = 25 °C, fload = 0 μA Ta = 25 °C, fload = 0 μA	25	40 0.0	55 0.1	μA μA
VREFA output voltage stabilization time	tvrefa	VDD = 0.0 v, CVREFA = 1 I		_	-	200	μc
Temperature sensor output voltage	VTEMP		o 3.6 V. Ta = 25 ℃	1.04	1.07	1.1	V
· · · ·			201			07100/	mV/°
Temperature sensor output voltage temperature coefficient	ΔVtemp	Vod = 2.2 to	5 3.6 V	-	3.6±3%	3.7 ± 6%	
temperature coefficient Temperature sensor operating current	IVTEMP		a = 25 °C	- 10	16	22	μA
temperature coefficient	IVTEMP		/				μA µs
temperature coefficient Temperature sensor operating current	IVTEMP e ttemp	VDD = 3.6 V,	/		-	22	μA µs
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36	IVTEMP	VDD = 3.6 V,	a = 25 °C	-	16	22 200	μA µs
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage	Іvтемр е tтемр Symbol Vvo25 Vvo20	VDD = 3.6 V, VDD = 2.7 to VDD = 2.7 to	Condition 0.3.6 V, lload = 0.5 mA 0.3.6 V, lload = 0.1 mA	10 - Min. 2.4 1.9	16 - Typ. 2.5 2.0	22 200 Max. 2.6 2.1	μΑ μs Uni V
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (VDD) output voltage	IVTEMP e tTEMP Symbol Vvo25 Vvo25 Vvo20 Vvop	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc	Condition 0.3.6 V, licad = 0.5 mA 0.3.6 V, licad = 0.1 mA 0.3.6 V, licad = 0.1 mA 0.3.6 V, licad = 0.3 mA	10 - Min. 2.4 1.9 Vdd - 0.1	16 - Typ. 2.5 2.0 VDD	22 200 Max. 2.6 2.1 VDD + 0.1	μΑ μs Uni V V
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (2.5/2.0 V) operating current	IVTEMP e tTEMP VV025 VV025 VV020 VV020 IV0	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V,	Condition 0 3.6 V, lioad = 0.5 mA 0 3.6 V, lioad = 0.1 mA 0 3.6 V, lioad = 0.1 mA 0 3.6 V, lioad = 0.3 mA Ta = 25 °C, lioad = 0 μA	10 - 2.4 1.9 Vod - 0.1 25	16 - 2.5 2.0 VDD 40	22 200 Max. 2.6 2.1 Vod + 0.1 55	μΑ μs Uni V V V
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (VDD) output voltage VREFA (VDD) output voltage VREFA (VDD) output voltage VREFA (VDD) operating current VREFA (VDD) operating current	Іvтемр в tтемр Symbol Vvo25 Vvo20 Vvo20 Vvo20 Vvo20 Vvo20	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V,	Condition 0.3.6 V, lload = 0.5 mA 0.3.6 V, lload = 0.1 mA 0.3.6 V, lload = 0.1 mA	10 - Min. 2.4 1.9 Vdd - 0.1	16 - 2.5 2.0 Vod 40 0.0	22 200 Max. 2.6 2.1 Vod + 0.1 55 0.1	μΑ μs Uni V V V μΑ
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (VDD) output voltage VREFA (VDD) output voltage VREFA (VDD) operating current VREFA (VDD) operating current VREFA output voltage stabilization time	VTEMP e TTEMP VV025 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V, VDD = 3.6 V,	Condition 0 3.6 V, lload = 0.5 mA 0 3.6 V, lload = 0.1 mA 0 3.6 V, lload = 0.3 mA Ta = 25 °C, lload = 0 μA Ta = 25 °C, lload = 0 μA	10 - 2.4 1.9 VDD - 0.1 25 - -	16 - 2.5 2.0 Voo 40 0.0 -	22 200 Max. 2.6 2.1 Vod + 0.1 55 0.1 200	μΑ μs Uni V V V μΑ
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (VDD) output voltage VREFA (VDD) operating current VREFA (VDD) operating current VREFA output voltage stabilization time Temperature sensor output voltage Temperature sensor output voltage	Іvтемр в tтемр Symbol Vvo25 Vvo20 Vvo20 Vvo20 Vvo20 Vvo20	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V, VDD = 3.6 V,	Condition 2 3.6 V, lload = 0.5 mA 2 3.6 V, lload = 0.1 mA 3 3.6 V, lload = 0.1 mA 3 3.6 V, lload = 0.3 mA Ta = 25 °C, lload = 0 μA Ta = 25 °C, lload = 0 μA 3 3.6 V, Ta = 25 °C	10 - 2.4 1.9 Vod - 0.1 25	16 - 2.5 2.0 Vod 40 0.0	22 200 Max. 2.6 2.1 Vod + 0.1 55 0.1	μΑ μs V V V μΑ μs V
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (VDD) output voltage VREFA (VDD) operating current VREFA (VDD) operating current VREFA output voltage stabilization time Temperature sensor output voltage	VTEMP e TTEMP e TTEMP VV025 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV020 VV025 VV025 VV020 VV025 VV025 VV025 VV025 VV025 VV025 VV025 VV025 VV025	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc	Condition 2 3.6 V, lload = 0.5 mA 2 3.6 V, lload = 0.1 mA 3 3.6 V, lload = 0.1 mA 3 3.6 V, lload = 0.3 mA Ta = 25 °C, lload = 0 μA Ta = 25 °C, lload = 0 μA 3 3.6 V, Ta = 25 °C	10 - 2.4 1.9 VDD - 0.1 25 - -	16 - 2.5 2.0 Vod 40 0.0 - 1.07	22 200 Max. 2.6 2.1 Vod + 0.1 55 0.1 200 1.1	μΑ μs V V μA μA μs V mV/°
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (VD) output voltage VREFA (VD) operating current VREFA (VD) operating current VREFA output voltage stabilization time Temperature sensor output voltage Temperature sensor output voltage temperature coefficient	Іутемр Ітемр темр Учо25 Учо20 Учо20<	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc	$\begin{array}{c} \hline \textbf{Condition} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.5 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.1 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.1 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.3 \text{ mA} \\ \hline \textbf{Ta} = 25 \ ^{\circ}\text{C}, \text{ lload} = 0 \ \mu\text{A} \\ \hline \textbf{Ta} = 25 \ ^{\circ}\text{C}, \text{ lload} = 0 \ \mu\text{A} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ Ta} = 25 \ ^{\circ}\text{C} \\ \hline \textbf{0} 3.6 \text{ V} \end{array}$	10 - 2.4 1.9 VDD - 0.1 25 - - 1.04 -	16 - 2.5 2.0 Voo 40 0.0 - 1.07 3.6	22 200 Max. 2.6 2.1 VDD + 0.1 55 0.1 200 1.1 3.7 ± 6%	μΑ μs V V ν μΑ μs wV/°
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (VD) output voltage VREFA (VD) operating current VREFA output voltage stabilization time Temperature sensor output voltage Temperature sensor output voltage temperature sensor operating current Temperature sensor output stabilization time	Іутемр Ітемр темр Учо25 Учо20 Учо20<	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc	$\begin{array}{c} \hline \textbf{Condition} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.5 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.1 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.1 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.3 \text{ mA} \\ \hline \textbf{Ta} = 25 \ ^{\circ}\text{C}, \text{ lload} = 0 \ \mu\text{A} \\ \hline \textbf{Ta} = 25 \ ^{\circ}\text{C}, \text{ lload} = 0 \ \mu\text{A} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ Ta} = 25 \ ^{\circ}\text{C} \\ \hline \textbf{0} 3.6 \text{ V} \end{array}$	10 - 2.4 1.9 Vod - 0.1 25 - - 1.04 - 10	16 - 2.5 2.0 Vod 40 0.0 - 1.07 3.6 16	22 200 2.00 2.6 2.1 VDD + 0.1 55 0.1 200 1.1 3.7 ± 6% 22	μΑ μs V V ν μΑ μs V w V
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (VDD) output voltage VREFA (VDD) operating current VREFA (VDD) operating current VREFA (VDD) operating current VREFA output voltage stabilization time Temperature sensor output voltage temperature sensor output voltage temperature sensor operating current Temperature sensor operating current Temperature sensor operating current Temperature sensor output stabilization time	Ivtemp ttemp ttemp vvo25 vvo25 vvo25 vvo20 vvo21 vvo21 vvo21 vvo21 vvo22 vvo21 vvo21 vvo22 tvreFA vtemp avtemp ivtemp	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc	Condition 2 3.6 V, lload = 0.5 mA 2 3.6 V, lload = 0.1 mA 3 3.6 V, lload = 0.1 mA 3 3.6 V, lload = 0.3 mA Ta = 25 °C, lload = 0 μA 3 3.6 V, Ta = 25 °C 3 3.6 V Ta = 25 °C	10 - 2.4 1.9 VDD - 0.1 25 - 1.04 - 10 -	16 - 2.5 2.0 Voo 40 0.0 - 1.07 3.6 16 -	22 200 Max. 2.6 2.1 Vod + 0.1 55 0.1 200 1.1 3.7 ± 6% 22 200	μ μ ν ν ν ν μ Α μ β μ μ μ μ β
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating ourrent VREFA (VD) output voltage VREFA (VD) operating ourrent VREFA (VD) operating ourrent VREFA (VD) operating ourrent VREFA output voltage stabilization time Temperature sensor output voltage temperature sensor output voltage temperature sensor output stabilization time	IVTEMP E TTEMP e TTEMP e TTEMP VV025 VV020 VV020 IV02 IV02 TVREFA VTEMP ΔVTEMP IVTEMP e TTEMP Symbol	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc	Condition 0 3.6 V, lload = 0.5 mA 0 3.6 V, lload = 0.1 mA 0 3.6 V, lload = 0.1 mA 0 3.6 V, lload = 0.3 mA Ta = 25 °C, lload = 0 µA 0 3.6 V, Ta = 25 °C 0 3.6 V 1 Ta = 25 °C 0 3.6 V Ta = 25 °C	10 - 2.4 1.9 VDD - 0.1 25 - 1.04 - 10 - Min.	16 - Typ. 2.5 2.0 Vod 40 0.0 - 1.07 3.6 16 - Typ.	22 200 Max. 2.6 2.1 Vop + 0.1 55 0.1 200 1.1 3.7 ± 6% 22 200 Max.	μ μs Vnii V V ν μA μs μs μs Unii
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (2.5/2.0 V) operating current VREFA (VD) operating current Temperature sensor output voltage temperature sensor operating current Temperature sensor operating current Temperature sensor output stabilization tim Correct) Item VREFA (2.5 V) output voltage	Ivtemp ttemp ttemp vvo25 vvo25 vvo25 vvo20 vvo21 vvo21 vvo21 vvo21 vvo22 vvo21 vvo21 vvo22 tvreFA vtemp avtemp ivtemp	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc	Condition 0 3.6 V, lload = 0.5 mA 0 3.6 V, lload = 0.1 mA 0 3.6 V, lload = 0.1 mA 0 3.6 V, lload = 0.3 mA Ta = 25 °C, lload = 0 µA 0 3.6 V, Ta = 25 °C 0 3.6 V	10 - 2.4 1.9 VDD - 0.1 25 - 1.04 - 10 - 10 - Min. 2.4	16 - 2.5 2.0 Vod 40 0.0 - 1.07 3.6 16 - Typ. 2.5	22 200 Max. 2.6 2.1 Vop + 0.1 55 0.1 200 1.1 3.7 ± 6% 22 200 Max. 2.6	μ μ ν ν ν ν μ Α μ β μ μ μ μ β
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5/2.0 V) operating ourrent VREFA (VD) output voltage VREFA (VD) operating ourrent VREFA (VD) operating ourrent VREFA (VD) operating ourrent VREFA output voltage stabilization time Temperature sensor output voltage temperature sensor output voltage temperature sensor output stabilization time	IVTEMP IVTEMP tTEMP tTEMP VV025 VV025 VV020 IV02 tVREA VTEMP AVTEMP IVTEMP tremp VTEMP VTEMP VTEMP VTEMP VTEMP VTEMP VTEMP	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc	$\begin{array}{c} \hline \textbf{Condition} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.5 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.1 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.1 \text{ mA} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ lload} = 0.3 \text{ mA} \\ \hline \textbf{Ta} = 25 \text{ °C}, \text{ lload} = 0 \mu\text{A} \\ \hline \textbf{Ta} = 25 \text{ °C}, \text{ lload} = 0 \mu\text{A} \\ \hline \textbf{0} 3.6 \text{ V}, \text{ Ta} = 25 \text{ °C} \\ \hline \textbf{0} 3.6 \text{ V} \\ \hline \textbf{Ta} = 25 \text{ °C} \\ \hline \textbf{0} 3.6 \text{ V} \\ \hline \end{array}$	10 - 2.4 1.9 VDD - 0.1 25 - 1.04 - 10 - Min.	16 - Typ. 2.5 2.0 Vod 40 0.0 - 1.07 3.6 16 - Typ.	22 200 Max. 2.6 2.1 Vop + 0.1 55 0.1 200 1.1 3.7 ± 6% 22 200 Max.	μ μs V V V V V V μ μ μ μ μ β Unit
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (2.5 V) output voltage VREFA (VD) output voltage VREFA (VD) operating current VREFA output voltage stabilization time Temperature sensor output voltage temperature sensor output voltage temperature sensor output voltage temperature sensor output stabilization time Temperature sensor output stabilization time Correct) Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (2.5/2.0 V) operating ourrent	Ivtemp Ivtemp ttemp ttemp Vvo25 Vvo25 Vvo20 Ivo1 Ivo2 tvremp AVtemp Ivtemp VTEMP VTEMP VTEMP VTEMP VTEMP VV025 Vv025	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 2.2 tc VDD = 1.8 tc VDD = 3.6 V,	Condition $a = 25 \degree C$, licad = 0.1 mA $a = 25 \degree C$, licad = 0.2 mA $Ta = 25 \degree C$, licad = 0 μA $a = 25 \degree C$, licad = 0 μA $a = 25 \degree C$	10 - 2.4 1.9 VDD - 0.1 25 - - 1.04 - 10 - Min. 2.4 1.9	16 - Typ. 2.5 2.0 Voo 40 0.0 - 1.07 3.6 16 - Typ. 2.5 2.0	22 200 2.00 2.1 VDD + 0.1 55 0.1 200 1.1 3.7 ± 6% 22 200 Max. 2.6 2.1	μ μs V V V V V V μ μ μ μ μ β W ^o V V V V V V V V V V V
temperature coefficient Temperature sensor operating current Temperature sensor output stabilization tim S1C17W34/W35/W36 Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (2.0 V) output voltage VREFA (2.5/2.0 V) operating current VREFA (VDD) output voltage Temperature sensor output stabilization tim Correct) Item VREFA (2.5 V) output voltage VREFA (2.0 V) output voltage VREFA (VDD) output voltage VREFA (IVTEMP IVTEMP tTEMP tTEMP VV025 Vv020 VTEMP IVTEMP tTEMP VV025 VV025 Vv020 Vv020 Vv020 Iv01 Iv02	VDD = 3.6 V, VDD = 2.7 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc VDD = 3.6 V, VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc VDD = 2.2 tc VDD = 3.6 V,	Condition $a = 25 \degree C$, lload = 0.1 mA $a = 25 \degree C$, lload = 0.3 mA $Ta = 25 \degree C$, lload = 0 μA $a = 25 \degree C$, lload = 0 μA $a = 25 \degree C$, lload = 0 μA $a = 25 \degree C$	10 - - 2.4 1.9 Vod - 0.1 25 - - 1.04 - 10 - - 10 - - Min. 2.4 1.9 Vod - 0.1 25 - -	16 - Typ. 2.5 2.0 Vod 40 0.0 - 1.07 3.6 - Typ. 2.5 2.0 Vod 40 0.0 - 1.07 3.6 - 16 - - Vod 0.0 - 1.07 3.6 - - - - - - - - - - - - -	22 200 2.00 2.1 VDD + 0.1 55 0.1 200 1.1 3.7 ± 6% 22 200 Max. 2.6 2.1 VDD + 0.1 55 0.1	μ μs μs ν ν ν ν ν ν ν μα μα μα μα μα μα μα ν ν μα μα μα ν ν ν ν ν μα μα
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ITEM DCLK pin precautions	1	1	1
Object manual	Document code	Object item	Page
S1C17W03/W04 Technical Manual	412925001	3.3.3 List of debugger input/output pins	3-3
S1C17W13 Technical Manual	413180401	3.3.3 List of debugger input/output pins	3-3
S1C17W14/W16 Technical Manual	412910300	3.3.3 List of debugger input/output pins	3-3
S1C17W15 Technical Manual	412645702	3.3.3 List of debugger input/output pins	3-3
S1C17W18 Technical Manual	413129601	3.3.3 List of debugger input/output pins	3-3
S1C17W22/W23 Technical Manual	412690402	3.3.3 List of debugger input/output pins	3-3
S1C17W34/W35/W36 Technical Manual	413237901	3.3.3 List of debugger input/output pins	3-3
S1C17M01 Technical Manual	412361701	3.3.3 List of debugger input/output pins	3-3
S1C17M10 Technical Manual	413180200	3.3.3 List of debugger input/output pins	3-3
S1C17589 Technical Manual	412959200	3.3.3 List of debugger input/output pins	3-3

(Error)

The debugger input/output pins are shared with general-purpose I/O ports and are initially set as the debug pins. If the debugging function is not used, these pins can be switched to general-purpose I/O port pins. For details, refer to the "I/O Ports" chapter.

(Correct)

The debugger input/output pins are shared with general-purpose I/O ports and are initially set as the debug pins. If the debugging function is not used, these pins can be switched to general-purpose I/O port pins. For details, refer to the "I/O Ports" chapter.

Note: The DCLK pin can't drive by high level input from external. (E.g. The pin is done pull-up etc.) Also, the DCLK pin and the other general purpose I/O pins can't connect by a short. Because in both cases, it has possibility that the IC can't work normally by the effect of unstable I/O at power-on.

TEM External capacitor rec	Jiiiiieiide	eu value ior		er			
Object manual	Docu	ment code	Object it	em			Page
S1C17M10 Technical Manual	4131	80200	19.2 F	Recommen	ded Op	erating	19-1
			Conditio	ns			
S1C17W34/W35/W36 Technical	4132	37901	23.2 F	Recommen	ded Op	erating	23-1
Manual			Conditio	ns			
(Error)							
Item	Symbol	Condi	tion	Min.	Тур.	Max.	Unit
Capacitors between $V_{\rm SS}$ and $V_{\rm C1-4}$	C _{LCD1-4}	*1		-	1	-	μF
Capacitors between V_{SS} and V_{C5}	C _{LCD5}	*1, *2		_	1	-	μF
	Symbol	Condi	tion	Min.	Tvp.	Max.	Unit
(Correct) Item	Symbol	Condi	tion	Min.	Тур. 0.1	Max.	Unit UF
	Symbol <u>C_{LCD1}</u> <u>C_{LCD2-4}</u>	Condi *1 *1	tion	Min. _ _	Typ. <u>0.1</u> 1		Unit μF μF

ITEM I ² C(I2C)			-
Object manual	Document code	Object item	Page
S1C17M01 Technical Manual	412361701	8.6 Control Registers	8-6
S1C17F13 Technical Manual	412486301	8.6 Control Registers	8-6
S1C17W22/W23 Technical Manual	412690402	9.6 Control Registers	9-6
S1C17W15 Technical Manual	412645702	9.6 Control Registers	9-6
S1C17589 Technical Manual	412959200	9.6 Control Registers	9-6
S1C17W14/W16 Technical Manual	412910300	9.6 Control Registers	9-6
S1C17W03/W04 Technical Manual	412925001	9.6 Control Registers	9-6
S1C17W18 Technical Manual	413129601	9.6 Control Registers	9-6
S1C17M10 Technical Manual	413180200	9.6 Control Registers	9-6
S1C17W13 Technical Manual	413180401	9.6 Control Registers	9-6
S1C17W34/W35/W36 Technical	413237901	9.6 Control Registers	9-6
Manual			

(Error)

14.4.3 Data Reception in Master Mode

A data receiving procedure in master mode and the I2C Ch.n operations are shown below. Figures 14.4.3.1 and 14.4.3.2 show an operation example and a flowchart, respectively.

Data receiving procedure

- 1. Issue a START condition by setting the I2CnCTL.TXSTART bit to 1.
- 2. Wait for a transmit buffer empty interrupt (I2CnINTF.TBEIF bit=1) or a START condition interrupt (I2CnINTF.STARTIF bit=1).

Clear the I2CnINTF.STARTIF bit by writing 1 after the interrupt has occurred.

- 3. Write the 7-bit slave address to the I2CnTXD.TXD[7:1] bits and 1 that represents READ as the data transfer direction to the I2CnTXD.TXD0 bit.
- 4. Wait for a receive buffer full interrupt (I2CnINTF.RBFIF bit=1) generated when a one-byte reception has completed or a NACK reception interrupt (I2CnINTF.NACKIF bit=1) generated when a NACK is received.
 - i. Go to Step 5 when a receive buffer full interrupt has occurred.
 - ii. Clear the I2CnINTF.NACKIF bit and issue a STOP condition by setting the I2CnCTL.TXSTOP bit to 1 when a NACK reception interrupt has occurred. Then go to Step 8 or Step 1 if making a retry.
- 5. Perform one of the operations below when the last or next-to-last data is received.
 - i. When the next-to-last data is received, write 1 to the I2CnCTL.TXNACK bit to send a NACK after the last data is received, and then go to Step 6.
 - ii. When the last data is received, read the received data from the I2CnRXD register and set the

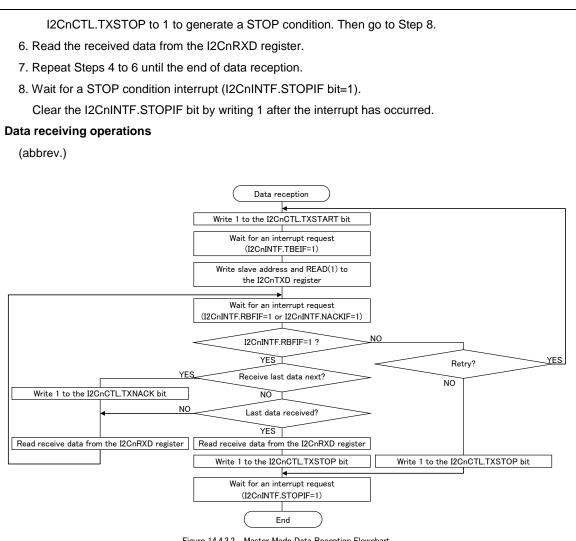


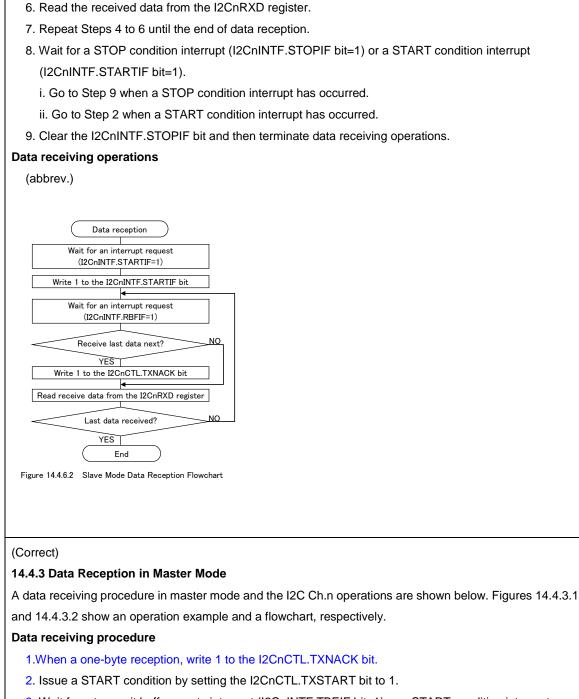
Figure 14.4.3.2 Master Mode Data Reception Flowchart

14.4.6 Data Reception in Slave Mode

A data receiving procedure in slave mode and the I2C Ch.n operations are shown below. Figures 14.4.6.1 and 14.4.6.2 show an operation example and a flowchart, respectively.

Data receiving procedure

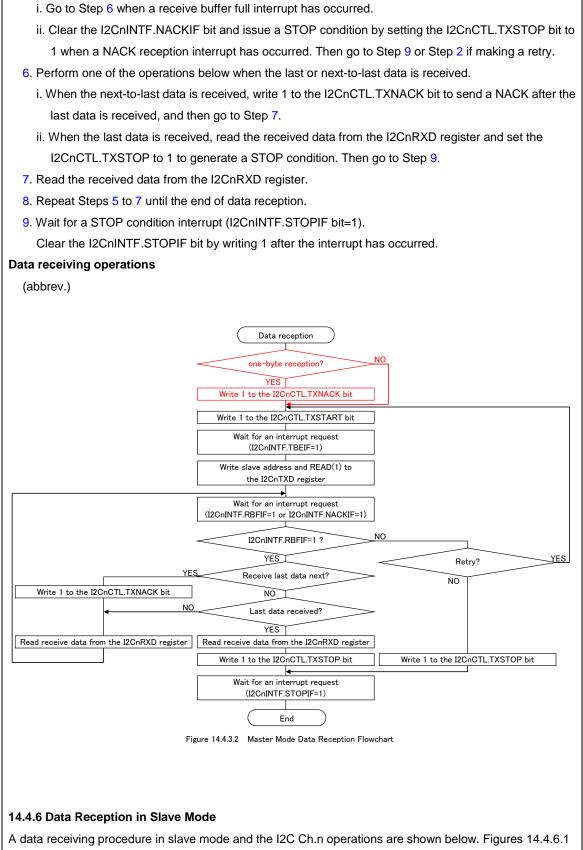
- 1. Wait for a START condition interrupt (I2CnINTF.STARTIF bit=1).
- 2. Check to see if the I2CnINTF.TR bit=0 (reception mode). (Start a data sending procedure if I2CnINTF.TR bit=1.)
- 3. Clear the I2CnINTF.STARTIF bit by writing 1.
- 4. Wait for a receive buffer full interrupt (I2CnINTF.RBFIF bit=1) generated when a one-byte reception has completed or an end of transfer interrupt (I2CnINTF.BYTEENDIF bit=1). Clear the I2CnINTF.BYTEENDIF bit by writing 1 after the interrupt has occurred.
- 5. If the next receive data is the last one, write 1 to the I2CnCTL.TXNACK bit to send a NACK after it is received.



3. Wait for a transmit buffer empty interrupt (I2CnINTF.TBEIF bit=1) or a START condition interrupt (I2CnINTF.STARTIF bit=1).

Clear the I2CnINTF.STARTIF bit by writing 1 after the interrupt has occurred.

- 4. Write the 7-bit slave address to the I2CnTXD.TXD[7:1] bits and 1 that represents READ as the data transfer direction to the I2CnTXD.TXD0 bit.
- Wait for a receive buffer full interrupt (I2CnINTF.RBFIF bit=1) generated when a one-byte reception has completed or a NACK reception interrupt (I2CnINTF.NACKIF bit=1) generated when a NACK is received.



and 14.4.6.2 show an operation example and a flowchart, respectively.

Data receiving procedure

1.When a one-byte reception, write 1 to the I2CnCTL.TXNACK bit.

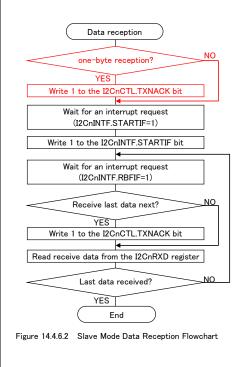
- 2. Wait for a START condition interrupt (I2CnINTF.STARTIF bit=1).
- Check to see if the I2CnINTF.TR bit=0 (reception mode).
 (Start a data sending procedure if I2CnINTF.TR bit=1.)
- 4. Clear the I2CnINTF.STARTIF bit by writing 1.
- 5. Wait for a receive buffer full interrupt (I2CnINTF.RBFIF bit=1) generated when a one-byte reception has completed or an end of transfer interrupt (I2CnINTF.BYTEENDIF bit=1).

Clear the I2CnINTF.BYTEENDIF bit by writing 1 after the interrupt has occurred.

- If the next receive data is the last one, write 1 to the I2CnCTL.TXNACK bit to send a NACK after it is received.
- 7. Read the received data from the I2CnRXD register.
- 8. Repeat Steps 5 to 7 until the end of data reception.
- Wait for a STOP condition interrupt (I2CnINTF.STOPIF bit=1) or a START condition interrupt (I2CnINTF.STARTIF bit=1).
 - i. Go to Step 10 when a STOP condition interrupt has occurred.
 - ii. Go to Step 3 when a START condition interrupt has occurred.
- 10. Clear the I2CnINTF.STOPIF bit and then terminate data receiving operations.

Data receiving operations

(abbrev.)



ITEM Real-Time Clock (RTCA)	-	-	
Object manual	Document code	Object item	Page
S1C17M01 Technical Manual	412361701	8.6 Control Registers	8-6
S1C17F13 Technical Manual	412486301	8.6 Control Registers	8-6
S1C17W22/W23 Technical Manual	412690402	9.6 Control Registers	9-6
S1C17W15 Technical Manual	412645702	9.6 Control Registers	9-6
S1C17589 Technical Manual	412959200	9.6 Control Registers	9-6
S1C17W14/W16 Technical Manual	412910300	9.6 Control Registers	9-6
S1C17W03/W04 Technical Manual	412925001	9.6 Control Registers	9-6
S1C17W18 Technical Manual	413129601	9.6 Control Registers	9-6
S1C17M10 Technical Manual	413180200	9.6 Control Registers	9-6
S1C17W13 Technical Manual	413180401	9.6 Control Registers	9-6
S1C17W34/W35/W36 Technical	413237901	9.6 Control Registers	9-6
Manual			

(Error)

Bits14–8 RTCTRM[6:0]

Write the correction value for adjusting the 1 Hz frequency to these bits to execute theoretical regulation.For a calculation method of correction value, refer to "Theoretical Regulation Function." Note: When the RTCCTL.RTCTRMBSY bit = 1, the RTCCTL.RTCTRM[6:0] bits cannot be rewritten.

(Correct)

Bits14–8 RTCTRM[6:0]

Write the correction value for adjusting the 1 Hz frequency to these bits to execute theoretical regulation.For a calculation method of correction value, refer to "Theoretical Regulation Function."

Notes: When the RTCCTL.RTCTRMBSY bit = 1, the RTCCTL.RTCTRM[6:0] bits cannot be rewritten.
When 0x00 is written to the RTCCTL.RTCTRM[6:0] bits, the RTCCTL.RTCTRMBSY bit goes 1, but the time-of-day clock is not corrected.

ITEM Watchdog Timer (WDT2)			
Object manual	Document code	Object item	Page
S1C17M10 Technical Manual	413180200	8.4 Control Registers	8-4
S1C17W13 Technical Manual	413180401	8.4 Control Registers	8-4
S1C17W34/W35/W36 Technical	413237901	8.4 Control Registers	8-4
Manual			
(Error)			
Bits 3–0 WDTRUN[3:0]			
These bits control WDT2 to run an	d stop.		
0xa (R/WP): Sto	p		
Values other than 0xa (R/WP): Ru	n		
Always 0x0 is read if a value other Since an NMI or reset may be gen WDT2 should also be reset concu	erated immediately	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concu	erated immediately	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct)	erated immediately	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concu (Correct) Bits 3–0 WDTRUN[3:0]	erated immediately rrently when running	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an	erated immediately rrently when running	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an 0xa (WP): Stop	erated immediately rrently when running	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an	erated immediately rrently when running d stop.	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an Oxa (WP): Stop Values other than Oxa (WP): Run	erated immediately rrently when running d stop.	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an 0xa (WP): Stop Values other than 0xa (WP): Run 0xa (R): Stop	erated immediately rrently when running d stop.	after running depending on the co	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an 0xa (WP): Stop Values other than 0xa (WP): Run 0xa (R): Stop	erated immediately rrently when running d stop. ping hing	after running depending on the co g WDT2.	ounter value,
Since an NMI or reset may be gen WDT2 should also be reset concur (Correct) Bits 3–0 WDTRUN[3:0] These bits control WDT2 to run an 0xa (WP): Stop Values other than 0xa (WP): Run 0xa (R): Stop 0x0 (R): Runr	erated immediately rrently when running d stop. ping hing than 0xa is written.	after running depending on the co	