S1C63 Manual errata





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ITEM: Additional explanation and note about execution of SLP instruction			
Object manuals	Document codes	Items	Pages
S1C6F416	404736203	4.14 Interrupt and HALT/SLEEP 7.2 Summary of Notes by Function	97,102, 113
S1C63406/408	MF1545-01a	4.14 Interrupt and HALT/SLEEP 5.2 Summary of Notes by Function	104,109, 114

(Error) - S1C6F416 (P97), S1C63406/408 (P104)-

<HALT/SLEEP>

When the CPU enters SLEEP status as the result of the SLP instruction, the CPU stops its operation, the OSC3 oscillation circuit and supplying the OSC1 clock to the divider and peripheral circuits. However, the OSC1 oscillation circuit does not stop its oscillation.

Reactivating from SLEEP status can only be done by generation of an input port interrupt factor. Therefore, set the following flag and the registers for the K0x port to be used to cancel SLEEP status before executing the SLP instruction.

• Interrupt flag (I flag) = "1" (interrupts are enabled)

- Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
- Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
- Noise rejector selection register K0NR1–K0NR0 = "00" (noise rejector is bypassed)

(Correct) - S1C6F416 (P97), S1C63406/408 (P104)-

<HALT/SLEEP>

When the CPU enters SLEEP status as the result of the SLP instruction, the CPU stops its operation, the OSC3 oscillation circuit and supplying the OSC1 clock to the divider and peripheral circuits. However, the OSC1 oscillation circuit does not stop its oscillation. To prevent improper operation after the CPU wakes up, be sure to run the CPU with the OSC1 clock before setting the CPU in the SLEEP mode.

Reactivating from SLEEP status can only be done by generation of an input port interrupt factor. Therefore, set the following flag and the registers for the K0x port to be used to cancel SLEEP status before executing the SLP instruction.

Interrupt flag (I flag) = "1" (interrupts are enabled)

Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)

Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)

• Noise rejector selection register K0NR1 - K0NR0 = "00" (noise rejector is bypassed)

Therefore, set and confirm the K0x input level, the flag and the registers for the K0x port and the CPU clock according to the following procedures to be used to enter / cancel SLEEP status before executing the SLP instruction surely.

- 1. CPU system clock switching register CLKCHG = "0" (OSC1 CPU clock is selected)
- 2. Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
- 3. Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
- 4. Noise rejector selection register K0NR1–K0NR0 = "00" (noise rejector is bypassed)
- 5. Reset the K0x input interrupt factor flag register (write "1" to the IK0x register)
- 6. Interrupt flag (I flag) = "1" (interrupts are enabled)
- 7-1. Confirm the input to the K0x port is surely HIGH level when the K0x port input comparison register = "1"(interrupt request signal is generated at the falling edge)
- 7-2. Confirm the input to the K0x port is surely LOW level when the K0x port input comparison register = "0"(interrupt request signal is generated at the rising edge)
- 8. Execute SLP instruction

(Error) - S1C6F416 (P102), S1C63406/408 (P109)-

4.14.5 Programming notes

- (4) Reactivating from SLEEP status can only be done by generation of an input port interrupt factor. Therefore, set the following flag and the registers for the K0x port to be used to cancel SLEEP status before executing the SLP instruction.
 - Interrupt flag (I flag) = "1" (interrupts are enabled)
 - Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
 - Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
 - Noise rejector selection register K0NR1–K0NR0 = "00" (noise rejector is bypassed)

(Correct) - S1C6F416 (P102), S1C63406/408 (P109)-

4.14.5 Programming notes

(4) Reactivating from SLEEP status can only be done by generation of an input port interrupt factor. Therefore, set the following flag and the registers for the K0x port to be used to cancel SLEEP status before executing the SLP instruction.

Interrupt flag (I flag) = "1" (interrupts are enabled)

Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
 Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)

Noise rejector selection register K0NR1 K0NR0 = "00" (noise rejector is bypassed)

Therefore, set and confirm the K0x input level, the flag and the registers for the K0x port and the CPU clock according to the following procedures to be used to enter / cancel SLEEP status before executing the SLP instruction surely.

- 1. CPU system clock switching register CLKCHG = "0" (OSC1 CPU clock is selected)
- 2. Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
- 3. Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
- 4. Noise rejector selection register K0NR1–K0NR0 = "00" (noise rejector is bypassed)
- 5. Reset the K0x input interrupt factor flag register (write "1" to the IK0x register)
- 6. Interrupt flag (I flag) = "1" (interrupts are enabled)
- 7-1. Confirm the input to the K0x port is surely HIGH level when the K0x port input comparison register = "1"(interrupt request signal is generated at the falling edge)
- 7-2. Confirm the input to the K0x port is surely LOW level when the K0x port input comparison register = "0"(interrupt request signal is generated at the rising edge)
- 8. Execute SLP instruction

(Error) - S1C6F416 (P113), S1C63406/408 (P114)-

Interrupt

- (4) When using the SLEEP function, set the following flag and the registers for the K0x port to be used to cancel SLEEP status before executing the SLP instruction.
 - Interrupt flag (I flag) = "1" (interrupts are enabled)
 - Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
 - Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
 - Noise rejector selection register K0NR1–K0NR0 = "00" (noise rejector is bypassed)

(Correct) - S1C6F416 (P113), S1C63406/408 (P114)-

Interrupt

- When using the SLEEP function, set the following flag and the registers for the K0x port to be used to cancel SLEEP status before executing the SLP instruction.
 Interrupt flag (I flag) = "1" (interrupts are enabled)
 - Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
 - Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
 - Noise rejector selection register K0NR1 K0NR0 = "00" (noise rejector is bypassed)

set and confirm the K0x input level, the flag and the registers for the K0x port and the CPU clock according to the following procedures to be used to enter / cancel SLEEP status before executing the SLP instruction surely.

- 1. CPU system clock switching register CLKCHG = "0" (OSC1 CPU clock is selected)
- 2. Interrupt selection register SIK0x = "1" (the K0x input port interrupt is selected)
- 3. Interrupt mask register EIK0x = "1" (the K0x input port interrupt is enabled)
- 4. Noise rejector selection register K0NR1–K0NR0 = "00" (noise rejector is bypassed)
- 5. Reset the K0x input interrupt factor flag register (write "1" to the IK0x register)
- 6. Interrupt flag (I flag) = "1" (interrupts are enabled)
- 7-1. Confirm the input to the K0x port is surely HIGH level when the K0x port input comparison register = "1"(interrupt request signal is generated at the falling edge)
- 7-2. Confirm the input to the K0x port is surely LOW level when the K0x port input comparison register = "0"(interrupt request signal is generated at the rising edge)
- 8. Execute SLP instruction