

September 16, 2015

Datasheet Errata for the S6E2DH Series 32-bit ARM® Cortex®-M4F based Microcontroller

This document describes the errata for the S6E2DH Series 32-bit ARM® Cortex®-M4F based Microcontroller Datasheet. Compare this document to the device's data sheet for a complete functional description.

Contact your local Cypress Sales Representative, if you have questions.

Part Numbers Affected

| Part Number |
|---------------|
| S6E2DH Series |

| Page | Item | Description | | | | | | | |
|------------|---|---|--|--|--|--|--|--|--|
| Original o | locument code | e: DS709-00029-1v0-E | | | | | | | |
| Rev. 1.0 | June 25, 201 | 5 | | | | | | | |
| 64 | 9. Handling "Sub Crystal Oscillator" should be added as indicated by the shading below. | | | | | | | | |
| | Devices | | | | | | | | |
| | | ■Surface mount type | | | | | | | |
| | | Size: More than 3.2 mm × 1.5 mm | | | | | | | |
| | | Load capacitance: Approximately 6 pF to 7 pF | | | | | | | |
| | | When the Standard setting (CCS/CCB=11001110) | | | | | | | |
| | | Load capacitance: Approximately 4 pF to 7 pF | | | | | | | |
| | | When the low power setting (CCS/CCB=00000100) | | | | | | | |
| | | ■Lead type | | | | | | | |
| | | Load capacitance: Approximately 6 pF to 7 pF | | | | | | | |
| | | When the Standard setting (CCS/CCB=11001110) | | | | | | | |
| | | Load capacitance: Approximately 4 pF to 7 pF | | | | | | | |
| | | When the low power setting (CCS/CCB=00000100) | | | | | | | |
| | | | | | | | | | |

| Item | Description | | | | | | | | | | |
|--------|---|---|--|---|--|---|---|--|--|--|--|
| 14.3.1 | | | | | | | | | | | |
| | | | | | | | | | | | |
| Rating | Table 14-10 Typical and Maximum Current Consumption in Deep Standby Stop Mode, Deep Stan RTC Mode and VBAT | | | | | | | | | | |
| | Parameter | Symbol | Pin Name | Conditions | Frequency (MHz) | | lue Max | Unit | Remarks | | |
| | | | | | | 0.009 | 0.032 | μA | *3, *4, *5 T _A =+25°C | | |
| | | | | RTC stop | | - | 0.994 | μA | *3, *4, *5 T _A =+85°C | | |
| | | | | | | - | 1.491 | μΑ | *3, *4, *5 T _A =+105°C | | |
| | | ICCVBAT | VBAT | | - | 1.0 | 1.636 | μA | *3, *4 T _A =+25°C | | |
| | Power supply current | | | RTC *6 operation | | - | 2.828 | μΑ | *3, *4 T _A =+85°C | | |
| | | | | | | - | 4.242 | μΑ | *3, *4 T _A =+105°C | | |
| | | | | | | 0.7 | 1.153 | μA | *3, *4 T _A =+25°C | | |
| | | | | RTC *7 operation | | - | 2.277 | μA | *3, *4 T _A =+85°C | | |
| | | | | | | - | 3.416 | μA | *3, *4 T _A =+105°C | | |
| | *1: V _{CC} | =3.3 V | | | | | | | | | |
| | *2: V _{cc} | =3.6 V | | | | | | | | | |
| | *3: Wh | en all ports a | re fixed. | | | | | | | | |
| | *4: Wh | en LVD is OI | FF | | | | | | | | |
| | *5: Wh | en sub oscilla | tion is OFF | 7 | | | | | | | |
| | | | | | | | | | | | |
| | | - | - | | | | 1 | | ·····, | | |
| | | | U. | | , | ant concr | motion | f the one | illation circuit) | | |
| | | - | - | | | ent consu | mption 0 | | inauon circuit) | | |
| | | | | | / | | | | | | |
| | | 14.3.1 Table 14-10 Current Table 14-10 T Rating Parameter Power Supply current *1: Vcc *2: Vcc *3: Wh *4: Wh *5: Wh *6: Wh Wher *7: Wh *7: Wh | 14.3.1 Table 14-10 should be Table 14-10 Typical and Rating Parameter Symbol Power supply current ICCVBAT *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all ports at *4: When LVD is OF *5: When sub oscillat *6: When using the compared of the standard *7: When using the compared of the standard *7: When using the compared of the standard | 14.3.1 Table 14-10 should be added Current Table 14-10 Typical and Maximum Parameter Symbol Pin Name Power Symbol VBAT Supply ICCVBAT VBAT *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all ports are fixed. *4: When LVD is OFF *5: When sub oscillation is OFF *6: When using the crystal oscil When the Standard setting (CC *7: When using the crystal oscil | 14.3.1 Current Rating Table 14-10 should be added as indicated Table 14-10 Typical and Maximum Current Cons RTC Moc Parameter Symbol Pin Name Conditions Power supply current ICCVBAT VBAT RTC *6 operation *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all ports are fixed. *4: When LVD is OFF *5: When sub oscillation is OFF *6: When using the crystal oscillator of 32 kHz (if When the Standard setting (CCS/CCB=1100111) *7: When using the crystal oscillator of 32 kHz (if | 14.3.1 Table 14-10 should be added as indicated by the shadi Current Rating Table 14-10 Typical and Maximum Current Consumption in Dee RTC Mode and VBAT Parameter Symbol Pin Name Conditions Frequency (MHz) Power supply current ICCVBAT VBAT RTC *6 operation - *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all ports are fixed. *4: When LVD is OFF *5: When sub oscillation is OFF *6: When using the crystal oscillator of 32 kHz (including the curr When the Standard setting (CCS/CCB=11001110) | 14.3.1 Current Rating Table 14-10 should be added as indicated by the shading below Table 14-10 Typical and Maximum Current Consumption in Deep Stanc RTC Mode and VBAT Parameter Symbol Pin Name Conditions Frequency (MHz) Va Power supply current ICCVBAT VBAT RTC *6 operation . . *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all ports are fixed. . . . *1: Wcc = 3.3 V *2: Vcc = 3.6 V *3: When using the crystal oscillator of 32 kHz (including the current consu When the Standard setting (CCS/CCB=11001110) *7: When using the crystal oscillator of 32 kHz (including the current consu When the Standard setting (CCS/CCB=11001110) | 14.3.1 Current Rating Table 14-10 should be added as indicated by the shading below. Table 14-10 Typical and Maximum Current Consumption in Deep Standby Stop RTC Mode and VBAT Parameter Symbol Pin Name Conditions Frequency (MHz) Value Power supply current ICCVBAT VBAT RTC *6 operation 0.009 0.032 Power supply current ICCVBAT VBAT RTC *6 operation - 1.0 1.636 Power supply current ICCVBAT VBAT RTC *6 operation - 2.828 *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all ports are fixed. *4: When LVD is OFF - 3.416 *1: Wen LVD is OFF *5: When sub oscillation is OFF *6: When using the crystal oscillator of 32 kHz (including the current consumption o When the Standard setting (CCS/CCB=11001110) *7: When using the crystal oscillator of 32 kHz (including the current consumption o | 14.3.1 Current Rating Table 14-10 should be added as indicated by the shading below. Table 14-10 Typical and Maximum Current Consumption in Deep Standby Stop Mode, RTC Mode and VBAT Parameter Symbol Pin Name Conditions Frequency (MHz) Value Unit Power supply current Symbol Pin Name Conditions Frequency (MHz) Value Unit Power supply current ICCVBAT VBAT RTC *6 operation 0.009 0.032 µA 1.0 1.636 µA *1: V _{CC} =3.3 V *2: V _{CC} =3.6 V *3: When all ports are fixed. *2: Wen LVD is OFF *5: When sub oscillation is OFF *6: When using the crystal oscillator of 32 kHz (including the current consumption of the osci When the Standard setting (CCS/CCB=11001110) *7: When using the crystal oscillator of 32 kHz (including the current consumption of the osci | | |

| Page | Item | | Description | | | | | | | |
|------|-----------------------------|------------|--|--|---|--|--|--|--|--|
| 178 | 15. Ordering Information | Ordering I | Information should be corrected as indicated by the shading below. | | | | | | | |
| | | (Error) | | | | | | | | |
| | | | Part Number | | | | | | | |
| | | | S6E2DH5G0AGV20000 | Plastic • LQFP (0.5 mm pitch), 120 pin | | | | | | |
| | | | S6E2DH5GJAMV20000 | (FPT-120P-M21) | | | | | | |
| | | | S6E2DH5J0AGV20000 | Plastic • LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07) | | | | | | |
| | | | S6E2DH5G0AGB30000 | Plastic • PFBGA (0.5 mm pitch), 161 pin (FDJ161) | | | | | | |
| | | | S6E2DH5G0AGZ20000 Plastic · Ex-LQFP (0.5 mm pitch), 12 (LEM120) | | | | | | | |
| | | (Correct) | | | _ | | | | | |
| | | | Part Number | Package | | | | | | |
| | | | S6E2DH5G0AGV20000 | Plastic • LQFP (0.5 mm pitch), 120 pin | | | | | | |
| | | | S6E2DH5GJAMV20000 | (FPT-120P-M21) | | | | | | |
| | | | S6E2DH5J0AGV20000 | Plastic • LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07) | | | | | | |
| | | | S6E2DH5G0AGB30000 | Plastic • PFBGA (0.5 mm pitch), 161 pin (FDJ161) | | | | | | |
| | | | S6E2DH5G0AGE20000 | Plastic • Ex-LQFP (0.5 mm pitch), 120 pin (LEM120) | | | | | | |

| Page | Item | De | scription | | | | | | |
|------------|---|---|--|--|-------------|--|--|--|--|
| 11 | 2. Features | Note should be added as indicated by the | | | | | | | |
| Page 11 | Item 2. Features | Note should be added as indicated by the (Error) GDC Unit Controller for external graphics display Accelerator for 2D block image transfer (Embedded SRAM video memory High-Speed Quad SPI (Serial Peripheral SDRAM interface for external memory ex- HBI (Hyper Bus Interface) interface for ex- Maximum core system clock frequency : (Correct) GDC Unit Controller for external graphics display Accelerator for 2D block image transfer (Embedded SRAM video memory High-Speed Quad SPI (Serial Peripheral SDRAM interface for external memory ex- HBI (Hyper Bus Interface) interface for ex- Maximum core system clock frequency : Note: – User can leverage the internal VRAM | blit) operations Interface for ex tensions xternal memory 160 MHz blit) operations Interface for ex tensions xternal memory 160 MHz | ternal memory extensions ternal memory extensions | extensions) | | | | |
| 15 | 4. Packages | <i>allowed to</i> be written <i>by GDC.</i> "Packages" should be corrected as indicated by the shading below. (Error) Product Name | | | | | | | |
| | | Package | S6E2DH5G0A | S6E2DH5J0A | S6E2DH5GJA | | | | |
| | | LQFP: FPT-120P-M21 (0.5 mm pitch) | О | - | O | | | | |
| | | LQFP: FPT-176P-M07 (0.5 mm pitch) | - | O | - | | | | |
| | | PFBGA: FDJ161 (0.5 mm pitch) O - | | | | | | | |
| | Ex_LQFP(TEQFP): LEM120 (0.5 mm pitch) O | | | | | | | | |
| | | | | | | | | | |
| | S6E2DH5J0A | S6E2DH5GJA | | | | | | | |
| | | LQFP: FPT-120P-M21 (0.5 mm pitch) | О | - | O | | | | |
| | | LQFP: FPT-176P-M07 (0.5 mm pitch) | - | O | - | | | | |
| | | FBGA: FDJ161 (0.5 mm pitch) | О | - | - | | | | |
| | | Ex_LQFP(TEQFP): LEM120 (0.5 mm pitch) | | - | | | | | |
| | | O: Supported □: In de | velopment | | | | | | |

| Page | Item | Description | | | | | | | | |
|--|---------------------|---|---|-----------|-------------------|--------|---------|---------|---------|-----------|
| | 5. Pin | Signal name should be corrected as below. | | | | | | | | |
| | Assignment | (Error) GE_SPCSX_0 (Correct) GE_SPCSX0 | | | | | | | | |
| | | (Error) GE_HBCSX_0 (Correct) GE_HBCSX0 | | | | | | | | |
| | | Error) GE_HBCSX_1 (Correct) GE_HBCSX1 | | | | | | | | |
| | 6. Pin | Signal name shou | Signal name should be corrected as below. | | | | | | | |
| 48 | Descriptions | (Error) GE SPC | (Error) GE_SPCSX_0 (Correct) GE_SPCSX0 | | | | | | | |
| (Error) GE_HBCSX_0 (Correct) GE_HBCSX0 | | | | | | | | | | |
| | | (Error) GE_HBCSX_1 (Correct) GE_HBCSX1 | | | | | | | | |
| 67 | 10. Block | Signal name shou | uld be corre | ected as | below. | | | | | |
| | Diagram | (Error) GE_SPC | SX 0 (Co | orrect) G | E SPCSX0 | | | | | |
| | | (Error) GE_HBC | | | | /1 | | | | |
| 93 | 14.3 DC | "VFLASH memor | v Standby | current" | should be co | rrecte | d as in | dicated | d by th | e shading |
| | Characteristi | below. | ,, | | | | | | , | 5 |
| | cs | (Error) | | | | | | | | |
| | | | Cumhal | Pin | Conditions | | Value | | 11 | Domorko |
| | | Parameter | Symbol | name | Conditions | Min | Тур | Max | Unit | Remarks |
| | | VFLASH memory Standby current | | | At Standby | - | 15 | 25 | μΑ | |
| | | VFLASH memory | VFLASH memory Read current I _{CCVFLASH} | i VCC | At Read | - | 9 | 14 | mA | 40MHz |
| | | | | | At | | 13 | 20 | | 80MHz |
| | | | | | At Write/Erase | - | 20 | 25 | mA | |
| | | (Correct) | | | | | | | | |
| | | Parameter | Symbol | Pin | Conditions | | Value | | Unit | Remarks |
| | | | Symbol | name | Conditions | Min | Тур | Мах | Unit | Remarks |
| | | VFLASH memory Standby current | | | At Standby | - | 15 | 35 | μΑ | |
| | | VFLASH memory | I _{CCVFLASH} | VCC | At Read | - | 9 | 14 | mA | 40MHz |
| | | Read current | | | A.4 | | 13 | 20 | | 80MHz |
| | | VFLASH memory write/erase current | | | At Write/Erase | - | 20 | 25 | mA | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 162, | 14.4 AC | Signal name should be corrected as below. | | | | | | | | |
| 163, 164 | Characteristi cs | (Error) GE_SPC | SX 0 (Co | rrect) GF | SPCSX0 | | | | | |
| | | (Error) GE_HBC | SX_0 (Co | rrect) Gl | E_HBCSX0 | | | | | |
| | | (Error) GE_HBC | SX_1 (Co | rrect) Gl | E_HBCSX1 | | | | | |
| | | | | | | | | | | |

Document History Page

| Document Title: Datasheet Errata for the S6E2DH Series 32-bit ARM® Cortex®-M4F based Microcontroller Document Number: 002-05039 | | | | | | | | |
|--|---|------|-----------------------------|--|--|--|--|--|
| Rev. | Orig. of Orig. of Rev. ECN No. Change | | | | | | | |
| ** | _ | AKIH | Initial release | | | | | |
| *A | 5037741 | AKIH | Converted to Cypress format | | | | | |

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