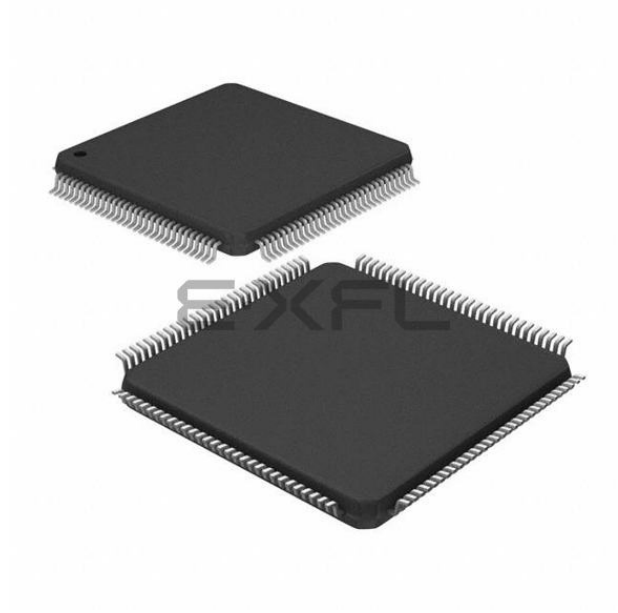

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What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Obsolete
Core Processor	ARM® Cortex®-M4F
Core Size	32-Bit Single-Core
Speed	160MHz
Connectivity	CANbus, CSIO, EBI/EMI, I²C, LINbus, SPI, UART/USART, USB
Peripherals	DMA, I²S, LVD, POR, PWM, WDT
Number of I/O	98
Program Memory Size	384KB (384K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	36K x 8
Voltage - Supply (Vcc/Vdd)	2.7V ~ 3.6V
Data Converters	A/D 24x12b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 125°C (TA)
Mounting Type	Surface Mount
Package / Case	120-LQFP
Supplier Device Package	120-LQFP (16x16)
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/s6e2d55g0age20000

THIS SPEC IS OBSOLETE

Spec No: 002-05034

Spec Title: DATASHEET ERRATA FOR S6E2D5 SERIES 32-BIT ARM (R) CORTEX (R)-M4F BASED MICROCONTROLLER

Replaced by: NONE

November 29, 2016

Datasheet Errata for S6E2D5 Series 32-bit ARM® Cortex®-M4F based Microcontroller

This document describes the errata for the S6E2D5 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
S6E2D5 Series

Page	Item	Description
Original document code: DS709-00021-1v0-E		
Rev. 1.0 June 25, 2015		
64	9. Handling Devices	"Sub Crystal Oscillator" should be added as indicated by the shading below. ■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)

<table>
<tr><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>92</td><td>14.3.1 Current Rating</td><td>
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, Deep Standby RTC Mode and VBAT
<table>
<tr><th rowspan="2">Parameter</th><th rowspan="2">Symbol</th><th rowspan="2">Pin Name</th><th rowspan="2">Conditions</th><th rowspan="2">Frequency (MHz)</th><th colspan="2">Value</th><th rowspan="2">Unit</th><th rowspan="2">Remarks</th></tr>
<tr><th>Typ</th><th>Max</th></tr>
<tr><td rowspan="9">Power supply current</td><td rowspan="9">ICCVBAT</td><td rowspan="9">VBAT</td><td rowspan="3">RTC stop</td><td rowspan="9">-</td><td>0.009</td><td>0.032</td><td>µA</td><td>*3, *4, *5
T_A=+25°C</td></tr>
<tr><td>-</td><td>0.994</td><td>µA</td><td>*3, *4, *5
T_A=+85°C</td></tr>
<tr><td>-</td><td>1.491</td><td>µA</td><td>*3, *4, *5
T_A=+105°C</td></tr>
<tr><td rowspan="3">RTC *6 operation</td><td>1.0</td><td>1.636</td><td>µA</td><td>*3, *4
T_A=+25°C</td></tr>
<tr><td>-</td><td>2.828</td><td>µA</td><td>*3, *4
T_A=+85°C</td></tr>
<tr><td>-</td><td>4.242</td><td>µA</td><td>*3, *4
T_A=+105°C</td></tr>
<tr><td rowspan="3">RTC *7 operation</td><td>0.7</td><td>1.153</td><td>µA</td><td>*3, *4
T_A=+25°C</td></tr>
<tr><td>-</td><td>2.277</td><td>µA</td><td>*3, *4
T_A=+85°C</td></tr>
<tr><td>-</td><td>3.416</td><td>µA</td><td>*3, *4
T_A=+105°C</td></tr>
</table>
*1: V_{CC}=3.3 V
*2: V_{CC}=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 current consumption of the oscillation circuit)
When the Standard setting (CCS/CCB=11001110)
*7: When using the crystal oscillator of 32 kHz (including the current consumption of the oscillation circuit)
When the low power setting (CCS/CCB=00000100)
</td></tr>
<tr><td>176</td><td>15. Ordering Information</td><td>
Ordering Information should be corrected as indicated by the shading below.

(Error)
<table>
<tr><th>Part Number</th><th>Package</th></tr>
<tr><td>S6E2D55G0AGV20000</td><td rowspan="2">Plastic・LQFP (0.5 mm pitch), 120 pin
(FPT-120P-M21)</td></tr>
<tr><td>S6E2D55GJAMV20000</td></tr>
<tr><td>S6E2D55J0AGV20000</td><td>Plastic・LQFP (0.5 mm pitch), 176 pin
(FPT-176P-M07)</td></tr>
<tr><td>S6E2D55G0AGB30000</td><td>Plastic・PFBGA (0.5 mm pitch), 161 pin
(FDJ161)</td></tr>
<tr><td>S6E2D55G0AGZ20000</td><td>Plastic・Ex-LQFP (0.5 mm pitch), 120 pin
(LEM120)</td></tr>
</table>
(Correct)
<table>
<tr><th>Part Number</th><th>Package</th></tr>
<tr><td>S6E2D55G0AGV20000</td><td rowspan="2">Plastic・LQFP (0.5 mm pitch), 120 pin
(FPT-120P-M21)</td></tr>
<tr><td>S6E2D55GJAMV20000</td></tr>
<tr><td>S6E2D55J0AGV20000</td><td>Plastic・LQFP (0.5 mm pitch), 176 pin
(FPT-176P-M07)</td></tr>
<tr><td>S6E2D55G0AGB30000</td><td>Plastic・PFBGA (0.5 mm pitch), 161 pin
(FDJ161)</td></tr>
<tr><td>S6E2D55G0AGE20000</td><td>Plastic・Ex-LQFP (0.5 mm pitch), 120 pin
(LEM120)</td></tr>
</table>
</td></tr>
<tr><td colspan="3">Rev. 2.0 September 16, 2015</td></tr>
</table>

<table>
<tr><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>11</td><td>2. Features</td><td>Note should be added as indicated by the shading below.

(Error)
GDC Unit
Controller for external graphics display
Accelerator for 2D block image transfer (blit) operations
Embedded SRAM video memory
High-Speed Quad SPI (Serial Peripheral Interface for external memory extensions)
SDRAM interface for external memory extensions
HBI (Hyper Bus Interface) interface for external memory extensions
Maximum core system clock frequency : 160 MHz

(Correct)
GDC Unit
Controller for external graphics display
Accelerator for 2D block image transfer (blit) operations
Embedded SRAM video memory
High-Speed Quad SPI (Serial Peripheral Interface for external memory extensions)
SDRAM interface for external memory extensions
HBI (Hyper Bus Interface) interface for external memory extensions
Maximum core system clock frequency : 160 MHz

Note:
User can leverage the internal VRAM and external HyperRAM as a graphics memory allowed to be written by GDC.</td></tr>
<tr><td>15</td><td>4. Packages</td><td>“Packages” should be corrected as indicated by the shading below.

(Error)
<table><tr><th>Product Name
Package</th><th>S6E2D55G0A</th><th>S6E2D55J0A</th><th>S6E2D55GJA</th></tr><tr><td>LQFP: FPT-120P-M21 (0.5 mm pitch)</td><td>❍</td><td>-</td><td>❍</td></tr><tr><td>LQFP: FPT-176P-M07 (0.5 mm pitch)</td><td>-</td><td>❍</td><td>-</td></tr><tr><td>PFBGA: FDJ161 (0.5 mm pitch)</td><td>❍</td><td>-</td><td>-</td></tr><tr><td>Ex_LQFP(TEQFP): LEM120 (0.5 mm pitch)</td><td>❍</td><td></td><td></td></tr></table>❍: Supported

(Correct)
<table><tr><th>Product Name
Package</th><th>S6E2D55G0A</th><th>S6E2D55J0A</th><th>S6E2D55GJA</th></tr><tr><td>LQFP: FPT-120P-M21 (0.5 mm pitch)</td><td>❍</td><td>-</td><td>❍</td></tr><tr><td>LQFP: FPT-176P-M07 (0.5 mm pitch)</td><td>-</td><td>❍</td><td>-</td></tr><tr><td>FBGA: FDJ161 (0.5 mm pitch)</td><td>❍</td><td>-</td><td>-</td></tr><tr><td>Ex_LQFP(TEQFP): LEM120 (0.5 mm pitch)</td><td>□</td><td>-</td><td>-</td></tr></table>❍: Supported □: In development</td></tr>
<tr><td>16, 18</td><td>5. Pin Assignment</td><td>Signal name should be corrected as below.

(Error) GE_SPCSX_0 (Correct) GE_SPCSX0
(Error) GE_HBCSX_0 (Correct) GE_HBCSX0
(Error) GE_HBCSX_1 (Correct) GE_HBCSX1</td></tr>
<tr><td>21, 23, 48</td><td>6. Pin Descriptions</td><td>Signal name should be corrected as below.

(Error) GE_SPCSX_0 (Correct) GE_SPCSX0
(Error) GE_HBCSX_0 (Correct) GE_HBCSX0
(Error) GE_HBCSX_1 (Correct) GE_HBCSX1</td></tr>
</table>

<table>
<tr><th>Page</th><th>Item</th><th>Description</th></tr>
<tr><td>67</td><td>10. Block Diagram</td><td>Signal name should be corrected as below.

(Error) GE_SPCSX_0 (Correct) GE_SPCSX0
(Error) GE_HBCSX_0/1 (Correct) GE_HBCSX0/1</td></tr>
<tr><td>93</td><td>14.3 DC Characteristics</td><td>“VFLASH memory Standby current” should be corrected as indicated by the shading below.

(Error)
<table>
<tr><th rowspan="2">Parameter</th><th rowspan="2">Symbol</th><th rowspan="2">Pin name</th><th rowspan="2">Conditions</th><th colspan="3">Value</th><th rowspan="2">Unit</th><th rowspan="2">Remarks</th></tr>
<tr><th>Min</th><th>Typ</th><th>Max</th></tr>
<tr><td>VFLASH memory Standby current</td><td rowspan="3">$I_{CCVFLASH}$</td><td rowspan="3">VCC</td><td>At Standby</td><td>-</td><td>15</td><td>25</td><td>µA</td><td></td></tr>
<tr><td rowspan="2">VFLASH memory Read current</td><td rowspan="2">At Read</td><td rowspan="2">-</td><td>9</td><td>14</td><td rowspan="2">mA</td><td>40MHz</td></tr>
<tr><td>13</td><td>20</td><td>80MHz</td></tr>
<tr><td>VFLASH memory write/erase current</td><td>At Write/Erase</td><td>-</td><td>20</td><td>25</td><td>mA</td><td></td></tr>
</table>
(Correct)
<table>
<tr><th rowspan="2">Parameter</th><th rowspan="2">Symbol</th><th rowspan="2">Pin name</th><th rowspan="2">Conditions</th><th colspan="3">Value</th><th rowspan="2">Unit</th><th rowspan="2">Remarks</th></tr>
<tr><th>Min</th><th>Typ</th><th>Max</th></tr>
<tr><td>VFLASH memory Standby current</td><td rowspan="3">$I_{CCVFLASH}$</td><td rowspan="3">VCC</td><td>At Standby</td><td>-</td><td>15</td><td>35</td><td>µA</td><td></td></tr>
<tr><td rowspan="2">VFLASH memory Read current</td><td rowspan="2">At Read</td><td rowspan="2">-</td><td>9</td><td>14</td><td rowspan="2">mA</td><td>40MHz</td></tr>
<tr><td>13</td><td>20</td><td>80MHz</td></tr>
<tr><td>VFLASH memory write/erase current</td><td>At Write/Erase</td><td>-</td><td>20</td><td>25</td><td>mA</td><td></td></tr>
</table></td></tr>
<tr><td>162, 161, 162</td><td>14.4 AC Characteristics</td><td>Signal name should be corrected as below.

(Error) GE_SPCSX_0 (Correct) GE_SPCSX0
(Error) GE_HBCSX_0 (Correct) GE_HBCSX0
(Error) GE_HBCSX_1 (Correct) GE_HBCSX1</td></tr>
</table>

Document History Page

Document Title: Datasheet Errata for S6E2D5 Series 32-bit ARM® Cortex®-M4F based Microcontroller Document Number: 002-05034			
Rev.	**ECN No.**	**Orig. of Change**	**Description of Change**
**	_	AKIH	Initial release
*A	5037589	AKIH	Converted to Cypress format
*B	5546786	HTER	Made the corrections to datasheet spec, 002-03982; this spec is now obsolete.

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