

THIS SPEC IS OBSOLETE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



S6E2D5 Series Datasheet

November 29, 2016

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

This document describes the errate 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)								

ting	Table 14-10 T RTC Mode an Parameter Power supply current *1: V _{CC} =3.3 V *2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	ypical and M d VBAT Symbol ICCVBAT	Maximum Pin Name VBAT		mption in Deep Frequency (MHz)	Value Typ 0.009 - 1.0 - 0.7 - - 0.7 - - 0.7 -		Unit μA	Peep Standby Remarks *3, *4, *5 T _A =+25°C *3, *4, *5 T _A =+85°C *3, *4 T _A =+25°C *3, *4 T _A =+25°C *3, *4 T _A =+105°C *3, *4 T _A =+25°C *3, *4 T _A =+105°C *3, *4 T _A =+105°C				
	RTC Mode an Parameter Power supply current *1: V _{CC} =3.3 V *2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	ICCVBAT ICCVBAT ICCVBAT	Pin Name VBAT	Conditions RTC stop RTC *6 operation RTC *7 operation RTC *2 RTC	Frequency (MHz)	Value Typ 0.009 - 1.0 - 0.7 - - 0.7 - - 0.7 -	Max 0.032 0.994 1.491 1.636 2.828 4.242 1.153 2.277	 Unit μA 	Remarks $*3, *4, *5$ $T_A=+25^{\circ}C$ $*3, *4, *5$ $T_A=+85^{\circ}C$ $*3, *4, *5$ $T_A=+105^{\circ}C$ $*3, *4$ $T_A=+85^{\circ}C$ $*3, *4$ $T_A=+85^{\circ}C$ $*3, *4$ $T_A=+105^{\circ}C$ $*3, *4$ $T_A=+25^{\circ}C$ $*3, *4$ $T_A=+25^{\circ}C$ $*3, *4$ $T_A=+485^{\circ}C$ $*3, *4$				
	Power supply current *1: Vcc=3.3 V *2: Vcc=3.6 V *3: When all po *4: When LVD *5: When using When the Star	Symbol ICCVBAT ICCVBAT orts are fixed. is OFF scillation is O the crystal os indard setting (VBAT FF cillator of 3	RTC stop RTC *6 operation RTC *7 operation 32 kHz (including	(MHz)	Typ 0.009 - 1.0 - 0.7 - -	Max 0.032 0.994 1.491 1.636 2.828 4.242 1.153 2.277	μΑ μΑ μΑ μΑ μΑ μΑ μΑ μΑ	$\begin{array}{c} *3, *4, *5\\ T_A=+25^{\circ}C\\ *3, *4, *5\\ T_A=+85^{\circ}C\\ *3, *4, *5\\ T_A=+105^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+105^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+85^{\circ}C\\ *3, *4\\ T_A=+85^{\circ}C\\ *3, *4\\ \end{array}$				
	Power supply current *1: V _{cc} =3.3 V *2: V _{cc} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	ICCVBAT ICCVBAT is OFF socillation is O the crystal os ndard setting (VBAT FF cillator of 3	RTC stop RTC *6 operation RTC *7 operation 32 kHz (including	-	0.009 - 1.0 - 0.7 - 0.7 - -	0.032 0.994 1.491 1.636 2.828 4.242 1.153 2.277	μΑ μΑ μΑ μΑ μΑ μΑ μΑ μΑ	$\begin{array}{c} *3, *4, *5\\ T_A=+25^{\circ}C\\ *3, *4, *5\\ T_A=+85^{\circ}C\\ *3, *4, *5\\ T_A=+105^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+105^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+25^{\circ}C\\ *3, *4\\ T_A=+85^{\circ}C\\ *3, *4\\ T_A=+85^{\circ}C\\ *3, *4\\ \end{array}$				
	<pre>supply current *1: V_{CC}=3.3 V *2: V_{CC}=3.6 V *3: When all po *4: When all po *5: When sub o *6: When using When the Star</pre>	orts are fixed. is OFF scillation is O the crystal os indard setting (FF cillator of 3	RTC *6 operation RTC *7 operation 32 kHz (including	the current consu	- - - - - - - - - -	0.994 1.491 1.636 2.828 4.242 1.153 2.277	μΑ μΑ μΑ μΑ μΑ μΑ μΑ	$\begin{array}{c} T_{A} \!\!=\!\!+\!25^{\circ}C \\ \!$				
	<pre>supply current *1: V_{CC}=3.3 V *2: V_{CC}=3.6 V *3: When all po *4: When all po *5: When sub o *6: When using When the Star</pre>	orts are fixed. is OFF scillation is O the crystal os indard setting (FF cillator of 3	RTC *6 operation RTC *7 operation 32 kHz (including	the current consu	- 1.0 - 0.7 - -	1.491 1.636 2.828 4.242 1.153 2.277	μΑ μΑ μΑ μΑ μΑ μΑ	$\begin{array}{c} T_{A} \!\!=\!\!+85^\circ C \\ \!$				
	<pre>supply current *1: V_{CC}=3.3 V *2: V_{CC}=3.6 V *3: When all po *4: When all po *5: When sub o *6: When using When the Star</pre>	orts are fixed. is OFF scillation is O the crystal os indard setting (FF cillator of 3	operation RTC *7 operation 32 kHz (including	the current consu	1.0 - - 0.7 - -	1.636 2.828 4.242 1.153 2.277	μA μA μA μA μA	$\begin{array}{c} T_{A} \!\!=\!\!+105^{\circ}C \\ \!\!*3,*4 \\ T_{A} \!\!=\!\!+25^{\circ}C \\ \!\!*3,*4 \\ T_{A} \!\!=\!\!+85^{\circ}C \\ \!\!*3,*4 \\ T_{A} \!\!=\!\!+105^{\circ}C \\ \!\!*3,*4 \\ T_{A} \!\!=\!\!+25^{\circ}C \\ \!\!*3,*4 \\ T_{A} \!\!=\!\!+85^{\circ}C \\ \!\!*3,*4 \\ \end{array}$				
	<pre>supply current *1: V_{CC}=3.3 V *2: V_{CC}=3.6 V *3: When all po *4: When all po *5: When sub o *6: When using When the Star</pre>	orts are fixed. is OFF scillation is O the crystal os indard setting (FF cillator of 3	operation RTC *7 operation 32 kHz (including	the current consu	- 0.7 -	2.828 4.242 1.153 2.277	μA μA μA μA	$\begin{array}{c} T_{A} \!\!=\!\!+25^{\circ}C \\ \!\!\!*3,*4 \\ T_{A} \!\!=\!\!+85^{\circ}C \\ \!\!\!*3,*4 \\ T_{A} \!\!=\!\!+105^{\circ}C \\ \!\!\!*3,*4 \\ T_{A} \!\!=\!\!+25^{\circ}C \\ \!\!\!*3,*4 \\ T_{A} \!\!=\!\!+85^{\circ}C \\ \!\!\!*3,*4 \\ \end{array}$				
	<pre>supply current *1: V_{CC}=3.3 V *2: V_{CC}=3.6 V *3: When all po *4: When all po *5: When sub o *6: When using When the Star</pre>	orts are fixed. is OFF scillation is O the crystal os indard setting (FF cillator of 3	operation RTC *7 operation 32 kHz (including	the current consu	- 0.7 -	4.242 1.153 2.277	μΑ μΑ μΑ	$\begin{array}{c} T_{A}=+85^{\circ}C \\ *3, *4 \\ T_{A}=+105^{\circ}C \\ *3, *4 \\ T_{A}=+25^{\circ}C \\ *3, *4 \\ T_{A}=+85^{\circ}C \\ *3, *4 \end{array}$				
	*1: V _{CC} =3.3 V *2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When using When the Star	is OFF scillation is O the crystal os ndard setting (cillator of 3	operation	the current consu	-	1.153 2.277	μA μA	$\begin{array}{c} T_{A}=+105^{\circ}C\\ *3,*4\\ T_{A}=+25^{\circ}C\\ *3,*4\\ T_{A}=+85^{\circ}C\\ *3,*4\\ \end{array}$				
	*2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	is OFF scillation is O the crystal os ndard setting (cillator of 3	operation	the current consu	-	2.277	μA	$\begin{array}{c} T_{A} = +25^{\circ}C \\ *3, *4 \\ T_{A} = +85^{\circ}C \\ *3, *4 \end{array}$				
	*2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	is OFF scillation is O the crystal os ndard setting (cillator of 3	operation	the current consu			-	T _A =+85°C *3, *4				
	*2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	is OFF scillation is O the crystal os ndard setting (cillator of 3		the current consu		3.416	μΑ					
	*2: V _{CC} =3.6 V *3: When all po *4: When LVD *5: When sub o *6: When using When the Star	is OFF scillation is O the crystal os ndard setting (cillator of 3		the current consu	umption of							
	 *3: When all po *4: When LVD *5: When sub or *6: When using When the Star 	is OFF scillation is O the crystal os ndard setting (cillator of 3		the current consu	umption of							
	*5: When sub or *6: When using When the Star	scillation is O the crystal os ndard setting (cillator of 3		the current consu	umption of							
	*6: When using When the Star	the crystal os ndard setting (cillator of 3		the current consu	umption of							
	When the Star	ndard settin <mark>g (</mark>			the current consu	o oscillation is OFF ng the crystal oscillator of 32 kHz (including the current consumption of the oscillation circui							
	*7. When using	and the crystal oscillator of 32 kHz (including the current consumption of the oscillation circuit and and setting (CCS/CCB=11001110) and the crystal oscillator of 32 kHz (including the current consumption of the oscillation circuit											
			cillator of 3	32 kHz (including	the current consu	imption of	f the osci	llation ci	rcuit)				
	When the low	power setting	g (CCS/CCI	B=00000100)									
. Ordering	Ordering Information should be corrected as indicated by the shading below.												
formation	-				C C								
	(Error)	art Number		Package									
			GV20000		LOEP (0.5 mm n	vitch) 120	nin						
					nicii), 120	, pin							
	S	6E2D55J0AG	W20000		Plastic LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07)								
	S	6E2D55G0A0	GB30000		Plastic • PFBGA (0.5 mm pitch), 161 pin (FDJ161)								
	S	S6E2D55G0AGZ20000											
	(Correct)												
		art Number		Package									
			GV20000		LOFP (0.5 mm n	itch) 120	nin						
					-		P						
	S	6E2D55J0AG	W20000		-	oitch), 176	pin						
	S	6E2D55G0A0	GB30000										
	S	6E2D55G0A0	GE20000			m pitch),	120 pin						
		P S S S S S S S S S S S S S S S S S S S	Part Number S6E2D55G0AG S6E2D55G0AG S6E2D55J0AC S6E2D55G0AG S6E2D55G0AG S6E2D55G0AG S6E2D55G0AG S6E2D55G0AG S6E2D55G0AG S6E2D55G0AG	Part Number S6E2D55G0AGV20000 S6E2D55GJAMV20000 S6E2D55GJAMV20000 S6E2D55G0AGV20000 S6E2D55G0AGB30000 S6E2D55G0AGZ20000 S6E2D55G0AGZ20000 S6E2D55G0AGZ20000 S6E2D55G0AGZ20000 S6E2D55G0AGV20000 S6E2D55G0AGV20000 S6E2D55G0AGV20000 S6E2D55G0AGV20000 S6E2D55G0AGV20000 S6E2D55G0AGV20000 S6E2D55G0AGB30000 S6E2D55G0AGE20000	Part NumberPackageS6E2D55G0AGV20000PlasticS6E2D55GJAMV20000(FPT-12)S6E2D55J0AGV20000PlasticS6E2D55G0AGB30000Plastic(FDJ161)S6E2D55G0AGZ20000S6E2D55G0AGZ20000Plastic(Correct)Part NumberPart NumberPackageS6E2D55G0AGV20000PlasticS6E2D55G0AGV20000PlasticS6E2D55G0AGV20000PlasticS6E2D55GJAMV20000(FPT-120)S6E2D55G0AGV20000PlasticS6E2D55G0AGB30000PlasticS6E2D55G0AGB30000PlasticS6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB30000PlasticG6E2D55G0AGB20000PlasticS6E2D55G0AGB20000Plastic	Part Number Package S6E2D55G0AGV20000 Plastic + LQFP (0.5 mm p S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55J0AGV20000 Plastic + LQFP (0.5 mm p (FPT-176P-M07) S6E2D55G0AGB30000 Plastic + PFBGA (0.5 mm p S6E2D55G0AGB30000 Plastic + Ex-LQFP (0.5 mm p (FDJ161) S6E2D55G0AGZ20000 Plastic + Ex-LQFP (0.5 mm p (LEM120) (Correct) Part Number Package S6E2D55G0AGV20000 Plastic + LQFP (0.5 mm p (FPT-120P-M21) S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55J0AGV20000 S6E2D55G0AGB30000 Plastic + LQFP (0.5 mm p (FPT-176P-M07) S6E2D55G0AGB30000 Plastic + PFBGA (0.5 mm p (FDJ161) S6E2D55G0AGB30000 Plastic + CLQFP (0.5 mm p (FDJ161) S6E2D55G0AGB30000 Plastic + FFBGA (0.5 mm p (FDJ161) S6E2D55G0AGB20000 Plastic + Ex-LQFP (0.5 mm p (FDJ161)	Part Number Package S6E2D55G0AGV20000 Plastic · LQFP (0.5 mm pitch), 120 S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55J0AGV20000 Plastic · LQFP (0.5 mm pitch), 176 S6E2D55G0AGB30000 Plastic · PFBGA (0.5 mm pitch), 16 S6E2D55G0AGB30000 Plastic · PFBGA (0.5 mm pitch), 16 S6E2D55G0AGZ20000 Plastic · Ex-LQFP (0.5 mm pitch), 16 S6E2D55G0AGZ20000 Plastic · LQFP (0.5 mm pitch), 120 (Correct) Part Number Package S6E2D55G0AGV20000 S6E2D55G0AGV20000 Plastic · LQFP (0.5 mm pitch), 120 S6E2D55GJAGV20000 Plastic · LQFP (0.5 mm pitch), 120 S6E2D55G0AGV20000 Plastic · LQFP (0.5 mm pitch), 176 S6E2D55G0AGB30000 Plastic · PFBGA (0.5 mm pitch), 176 S6E2D55G0AGB30000 Plastic · PFBGA (0.5 mm pitch), 16 S6E2D55G0AGE20000 Plastic · Ex-LQFP (0.5 mm pitch), 16 S6E2D55G0AGE20000 Plastic · Ex-LQFP (0.5 mm pitch), 16	Part Number Package S6E2D55G0AGV20000 Plastic · LQFP (0.5 mm pitch), 120 pin S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55J0AGV20000 Plastic · LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07) S6E2D55G0AGB30000 S6E2D55G0AGB20000 Plastic · PFBGA (0.5 mm pitch), 161 pin (FDJ161) S6E2D55G0AGZ20000 S6E2D55G0AGZ20000 Plastic · Ex-LQFP (0.5 mm pitch), 120 pin (Correct) Part Number Package S6E2D55G0AGV20000 S6E2D55G0AGV20000 Plastic · LQFP (0.5 mm pitch), 120 pin S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55G0AGV20000 Plastic · LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07) S6E2D55G0AGB30000 S6E2D55G0AGB30000 Plastic · LQFP (0.5 mm pitch), 176 pin (FDT-16P-M07) S6E2D55G0AGB30000 S6E2D55G0AGB30000 Plastic · PFBGA (0.5 mm pitch), 161 pin (FDJ161) S6E2D55G0AGE20000	Part Number Package S6E2D55G0AGV20000 Plastic + LQFP (0.5 mm pitch), 120 pin S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55J0AGV20000 Plastic + LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07) S6E2D55G0AGB30000 S6E2D55G0AGB30000 Plastic + PFBGA (0.5 mm pitch), 161 pin (FD1161) S6E2D55G0AGZ20000 S6E2D55G0AGZ20000 Plastic + Ex-LQFP (0.5 mm pitch), 120 pin (Correct) Part Number Package S6E2D55G0AGV20000 S6E2D55G0AGV20000 Plastic + LQFP (0.5 mm pitch), 120 pin S6E2D55GJAMV20000 (FPT-120P-M21) S6E2D55G0AGV20000 Plastic + LQFP (0.5 mm pitch), 176 pin (FPT-176P-M07) S6E2D55G0AGB30000 S6E2D55G0AGB30000 Plastic + PFBGA (0.5 mm pitch), 161 pin (FD1161) S6E2D55G0AGE20000				

Page	Item	Description										
11	2. Features	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 SDRAM interface for external memory extensions HBI (Hyper Bus Interface) 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.										
15	4. Packages	"Packages" should be corrected as indicated by the shad	ling below.									
		(Error)										
		Product Name Package	S6E2D55G0A	S6E2D55J0A	S6E2D55GJA							
		LQFP: FPT-120P-M21 (0.5 mm pitch)	0	-	0							
		LQFP: FPT-176P-M07 (0.5 mm pitch)	-	0	-							
		PFBGA: FDJ161 (0.5 mm pitch)	0	-	-							
		Ex_LQFP(TEQFP): LEM120 (0.5 mm pitch)	0									
		O: Supported			1							
		(Correct)										
		Product Name										
		Package	S6E2D55G0A	S6E2D55J0A	S6E2D55GJA							
		LQFP: FPT-120P-M21 (0.5 mm pitch)	0	-	0							
		LQFP: FPT-176P-M07 (0.5 mm pitch)	-	0	-							
		FBGA: FDJ161 (0.5 mm pitch)	0	-	-							
		Ex_LQFP(TEQFP): LEM120 (0.5 mm pitch)										
		O: Supported □: In development										
16, 18	5. Pin Assignment	Signal name should be corrected as below.		· · · ·								
-, -	<u> </u>	(Error) GE_SPCSX_0 (Correct) GE_SPCSX0 (Error) GE_HBCSX_0 (Correct) GE_HBCSX0 (Error) GE_HBCSX_1 (Correct) GE_HBCSX1										
21, 23, 48	6. Pin	Signal name should be corrected as below.										
	Descriptions	(Error) GE_SPCSX_0 (Correct) GE_SPCSX0 (Error) GE_HBCSX_0 (Correct) GE_HBCSX0 (Error) GE_HBCSX_1 (Correct) GE_HBCSX1										

Errata Document

Page	Item	Description									
67	10. Block Diagram	Signal name should be (Error) GE_SPCSX_0 (Error) GE_HBCSX_0	(Correct) GE	E_SPCSX0	0/1						
93	14.3 DC Characteristics	"VFLASH memory Sta (Error)	ndby current"	should be c	orrected as indicat	ted by th	e shading	g below.			
		Parameter	Symbol	Pin	Conditions	Value			Unit	Remarks	
		Parameter	Symbol	name	Conditions	Min	Тур	Max	Unit	Remarks	
		VFLASH memory Standby current			At Standby	-	15	25	μΑ		
		VFLASH memory Read current	I _{CCVFLASH}	VCC	At Read	-	9	14	mA	40MHz	
		Read current					13	20		80MHz	
		VFLASH memory write/erase current			At Write/Erase	-	20	25	mA		
		(Correct)									
		Parameter	Symbol	Pin	Conditions	Value			Unit	Remarks	
				name		Min	Тур	Max	- Onit	Kelliarks	
		VFLASH memory Standby current			At Standby	-	15	35	μΑ		
		VFLASH memory Read current	I _{CCVFLASH}	VCC	At Read	-	9	14	mA	40MHz	
						13	13	20		80MHz	
		VFLASH memory write/erase current			At Write/Erase	-	20	25	mA		
162, 161, 162	14.4 AC Characteristics	Signal name should be corrected as below. (Error) GE_SPCSX_0 (Correct) GE_SPCSX0									
		(Error) GE_HBCSX_0 (Error) GE_HBCSX_1	(Correct) GE	E_HBCSX0							

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						
*В	5546786	HTER	Made the corrections to datasheet spec, 002-03982; this spec is now obsolete.						

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