




SAMSUNG



Samsung Semiconductor, Inc.
Product Selection Guide

System LSI
August 2007

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For more information on Samsung's dedicated 300mm logic foundry, go to www.samsung.com/global/business/semiconductor/products/strategicfoundry

ASIC LIBRARY

Specialty	I/O Peripherals
SSTL2, SSTL18	ARM PrimeCell Peripheral
LVDS	Samsung Peripheral
USB 1.1	
MDDR	

ASIC PROCESS TECHNOLOGY

Design Rule	45nm	65nm		90nm	
Process Technology	L(D/R)4LP (=11LP)	L6G (=10FS)	L(D/R)6LP (=10LP)	L(D)9G (=9SF)	L(R)9LP (=9LP)
Description	45nm Low Power Process (with eDRAM/RFCMOS option)	65nm Generic Process	65nm Low Power Process (with eDRAM/RFCMOS option)	90nm Generic Process (with eDRAM option)	90nm Low Power Process (with RFCMOS option)
Vth Option	LVT/RVT/HVT	LVT/RVT/HVT	LVT/RVT/HVT	RVT/AVT/LVT/eMPU	sHVT/HVT/RVT/LVT
Core Voltage	1.1V	1.0V	1.2V	1.0~1.2V	1.2V
I/O Voltage	1.8~2.5V	1.8~3.3V	1.8~3.3V	1.8~3.3V	1.8~3.3V
SRAM Bit-cell	0.29~0.359µm ²	0.625µm ²	0.54~0.676µm ²	0.79~1.25µm ²	0.79~1.25µm ²
eDRAM Bit-Cell	0.11µm ²		0.189µm ²	0.275µm ²	
Standard Cell Library	SS45LP (HVT/RVT/LVT)	SS65G (HVT/RVT/LVT)	SS65LP (HVT/RVT/LVT)	SS90G (RVT/LVT)	SS90LP (HVT/RVT/LVT)
Raw Gate Density	1800kgate/mm ² (9 track)	750kgate/mm ² (9 track)	860kgate/mm ² (8 track)	417kgate/mm ² (9 track)	445kgate/mm ² (8 track)
Compiled Memory	RA1D-0.299 RA1S-0.374 RA2 (Dual-port SRAM) RF1 (1P REGFILE) RF2 (2P REGFILE) VROM	RA1-0.62 RA2 (Dual-port SRAM) RF1 (1P REGFILE) RF2 (2P REGFILE) VROM SPSRAM (High-speed)	RA1-0.54 RA1-0.676 RA2 RF1 (1P REGFILE) RF2 (2P REGFILE) VROM SPSRAM (High-speed) UHD SPSRAM	VROM_HD	SPSRAM_HD DPSRAM_HD 1P-REGFILE_HD 2P-REGFILE_HD VROM_HD SPSRAM_LP DPSRAM_LP 1P-REGFILE_LP 2P-REGFILE_LP
GP I/O	1.8/2.5/3.3V 40µm In-line CUP 25/50 Staggered CUP	1.8/2.5/3.3V (5V tol) 50µm In-line CUP 30/60 Staggered CUP	1.8/2.5/3.3V (5V tol) 50µm In-line CUP 30/60 Staggered CUP	1.8/2.5/3.3V (5V tol) 50µm In-line CUP 30/60 Staggered CUP	1.8/2.5/3.3V (5V tol) 50µm In-line CUP 30/60 Staggered CUP

ASIC IP

Mixed Signal IP	DSP IP	Processor IP	High Speed Interface IP	Embedded Memory IP
ADC 10bit ~ 12bit, 0.5Msps ~ 140Msps	Teak-Lite	ARM7TDMI-S	PCI Express	Embedded DRAM
DAC 10 ~ 12bit, 1M ~ 100Msps	Teak	ARM9 Series	USB 2.0 OTG	Pseudo SRAM
PLL ~600MHz FSPLL, ~2GHz FSPLL, SSCG PLL, Pixel PLL, DLL		ARM11 Series	HDMI TX	
Audio CODEC 8~96kHz Sigma-Delta audio CODEC		ARM11 MPCore	MIPI	
DTV AFE 12bit 150MHz ADC + A-Mux + Clamp + A-Buffer + Sync Slicer + PCG		Cortex	SMIA	
PMU			SATA PHY	
Voltage Regulator			DDR/2/3 PHY	
				LVDS TX/RX

ASIC PROCESS DESCRIPTIONS

Process	Geometry	Description
L13HS	0.13µm	1.2V High Speed Process
L(D/F)13G	0.13µm	1.2~1.5V Generic Process (with eDRAM/Flash option)
L13LP	0.13µm	1.5V Low Power Process
L(F)18	0.18µm	1.8V Process (with Flash option)
L25	0.25µm	2.5V Process
L35(H)	0.35µm	2.5V Process (with 5V dual gate oxide option)

ASIC ORDERING INFORMATION

S	6	X	X	X	X	X	X	X	X	-	X	X	X	X			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
1. System LSI (S)			12~14. Package Type								(14) Packing						
2. Large Classification: ASIC (6)			- In Case of PKG								- In Case of TAB / COF						
3. Small Classification			(12) Package Type								(12)(13) Film Type						
A : STN (Character)		B : STN (Graphic)		A : SDIP		B : BUMP BIZ		C : CHIP BIZ		E : LQFP		00~49 → TAB		50~99 → COF			
C : TFT (Large)		D : TFT (Mobile)		J : ELP		K : TR		N : COB		Q : QFP		(14) Revision					
F : TFT (Midsmall)		E : OELD		S : SOP		T : TQFP		W : WAFER		X : ETQFP		1st Version → X					
P : PDI (DUAL)		T : TCON		(13) Reserved								15. Custom					
V : Process Vehicle		- PKG Option								0 : No Grinding				1 : 250±10um			
4~7.			0 : none								5 : 200±10um				8 : 300±10um (CHIP BIZ)		9 : 280±10um
Serial No			1 : Special Handling 1		2 : Special Handling 2		A : 300±10um		C : 300±10um (Wafer)		G : 375±10um (CHIP BIZ)		J : 425±10um		L : 450±10um		
8. Version			3 : Special Handling 3		A : Test Condition 1		M : 470±10um (Wafer)		R : 350±10um (Wafer)		U : 610±10um						
A~Z			B : Customer Option 1		C : Customer Option 2		V : 500±10um (CHIP BIZ)		W : 425±10um (Wafer)								
*1st Version → X			D : Customer Option 3		E : Customer Option 4		X : 425±10um (CHIP BIZ)		Y : 470±10um (CHIP BIZ)								
9~10. Mask Option			G : Customer Option 6		H : Customer Option 7		Z : No Grinding (CHIP / Wafer)										
- STN (Character)			J : Customer Option 8		K : Customer Option 9												
00~99 : Font			L : Customer Option 10		M : Customer Option 11												
- STN (Graphic)			N : Customer Option 12		P : Customer Option 13												
Mask Option			- WAFER														
- TFT Device			0 : BUMP		1 : NO BUMP												
Mask Option																	
11. " - "																	

CMOS IMAGE SENSORS

Part		Type	Resol.	O/F	Pixels		Package	Production Status
Number					Horizontal	Vertical		
S5KA3D		SOC	VGA	1/10"	640	480	wafer or die	MP
S5K5AA		SOC	SXGA	1/5"	1280	1024	wafer or die	MP
S5K4AA		SOC	SXGA	1/4"	1280	1024	wafer or die	MP
S5K4BAF		SOC	UXGA	1/4"	1600	1200	wafer or die	MP
S5K4B1F		CIS	UXGA	1/4"	1600	1200	wafer or die	MP
S5K4CA		SOC	QXGA	1/4"	2048	1536	wafer or die	Sampling
S5K4C1		CIS	QXGA	1/4"	2048	1536	wafer or die	Sampling

NOTE: * O/F: Optical Format

BW STN CHARACTER DISPLAY DRIVER IC FOR MOBILE DISPLAYS

Part		Segment	Common	CGROM (Ch.)	CGRAM (Ch.)	Interface (Bits)	VDD (V)	Vlcd (Max V.)	DC/DC Convert (Times)	Package
Number										
S6A0031	80	8	10160 (254)	80 (2)	4 / 8	2.4~5.5	6	2~3	Au bump chip	
S6A0032	80	16	10160 (254)	80 (2)	4 / 8	2.4~5.5	6		Au bump chip	
S6A0065			40			2.7~5.5	13		Bare die/64QFP	
S6A0069	40	16	10080 (236)	512 (8)	4 / 8	2.7~5.5	13		Bare die/80QFP	
S6A0070	80	16	8320 (224)	512 (8)	4 / 8	2.7~5.5	10		Bare die/Au bump chip	
S6A0071	60	32	8400 (240)	512 (8)	4 / 8	2.4~5.5	13	2	Au bump chip/TCP	
S6A0072	40	16	9600 (240)	160 (4)	1 / 4 / 8	2.7~5.5	11		Au bump chip	
S6A0073	60	34	9600 (240)	512 (8)	1 / 4 / 8	2.7~5.5	13	2~3	Bare die	
S6A0074	80	34	9600 (240)	512 (8)	1 / 4 / 8	2.7~5.5	13	2~3	Bare die	
S6A0075	100	34	9600 (240)	512 (8)	1 / 4 / 8	2.7~5.5	13	2~3	Bare die	
S6A0078	120	34	9600 (240)	512 (8)	1 / 4 / 8	2.7~5.5	13	2~3	Bare die/TCP	
S6A0079	120	34	9600 (240)	512 (8)	1 / 4 / 8	2.7~5.5	13	2~3	Bare die	
S6A0090	64	26	10240 (256)	160 (4)	1 / 4 / 8	2.4~5.5	11	2~3	Au bump chip/TCP	
S6A0093	80	26	10240 (256)	320 (8)	1 / 4 / 8	2.4~5.5	6	4	Au bump chip/TCP	
S6A0094*	80	34	21760 (544)	80 (6)	1 / 4 / 8	2.2~3.6	7	4	Au bump chip	
S6A0067	80					2.7~5.5	10		Bare die/100QFP	
S6A2068	60	16	8320 (224)	512 (8)	4 / 8	2.7~5.5	10		Bare die	

NOTES: Devices marked with an asterisk (*) are under development.
TCP (Tape Carrier Package)

Bare die is equivalent term with bare chip, pellet or die.
COF (Chip On Film) is available in case of TCP.

BW STN GRAPHIC DISPLAY DRIVER IC FOR MOBILE DISPLAYS

Part		Interface		DDRAM		Vlcd	DC/DC Convert	Package
Number	Segment	Common	(Bits)	(Bits)	VDD (V)	(Max V.)	(Times)	
S6B0107		64	1 / 1		4.5~5.5	17		
S6B0086		80	1 / 4		2.7~5.5	28		
S6B0715	100	33	1 / 8	8580	2.4~5.5	15	2~4	Au bump chip/TCP
S6B0717	100	55	1 / 8	6500	2.4~5.5	15	2~5	Au bump chip/TCP
S6B0718	104	81	1 / 8	9256	2.4~3.6	15	3~6	Au bump chip/TCP
S6B0719	160	105	1 / 8	16800	2.4~3.6	15	3~6	Au bump chip/TCP
S6B0723	132	65	1 / 8	8580	2.4~5.5	15	2~5	TCP
S6B0724	132	65	1 / 8	8580	2.4~5.5	15	2~5	Au bump chip
S6B0725	104	65	1 / 8	6860	2.4~3.6	15	2~5	Au bump chip
S6B0728	132	128	1 / 8	16896	2.4~3.6	15	3~7	Au bump chip/TCP
S6B0741	128	129	1 / 8	33024	1.8~3.3	15	3~6	TCP
S6B0755	128	65	1 / 8	8320	1.8~3.3	15	3~5	Au bump chip/TCP
S6B0756	96	65	1 / 8	6240	1.8~3.3	12	2~4	Au bump chip
S6B0759	128	81	1 / 8	10368	1.8~3.3	15	3~6	Au bump chip/TCP
S6B2400	96	65	1 / 8	12480	1.8~3.3	12	3~5	Au bump chip
S6B0794	160	160	4 / 8		2.4~5.5	32		Au bump chip/TCP
S6B0796	240	240	4 / 8		2.4~5.5	32		Au bump chip/TCP
S6B1713	132	65	1 / 8	8580	2.4~5.5	15	2~5	Au bump chip/TCP

NOTES: Bare die is equivalent term with bare chip, pellet or die.

TCP (Tape Carrier Package)

COF (Chip On Film) is available in case of TCP.

COLOR STN GRAPHIC DISPLAY DRIVER IC FOR MOBILE DISPLAYS

Device		Color		DDRAM		Vlcd	DC/DC Convert	Package
Name	Segment	Common	Depth	(Bits)	VDD (V)	(Max V.)	(Times)	
S6B33A1	132	160	256/4k	266,112	1.8~3.6	20	2, 3; -1; 2	Au bump chip
S6B33A2	128	129	256/4k	196,608	1.8~3.3	20	1, 1.5; -3; 2	Au bump chip
S6B33B0	144	177	256/4k/65k	405,504	1.8~3.3	20	1, 1.5; -3; 2	Au bump chip
S6B3300*	104	80	256/4k	99,840	1.8~3.3	15	1, 1.5; -3; 2	Au bump chip

NOTES: Devices marked with an asterisk (*) are under development.
COF (Chip On Film) is available in case of TCP.

TCP (Tape Carrier Package)

Bare die is equivalent term with bare chip, pellet or die.

COLOR STN GRAPHIC DISPLAY DRIVER IC FOR MOBILE DISPLAYS

Part		Color		Bit Map Area		Vlcd	Package
Number	RGB	Gate	Depth	(RAM)	VCI (V)	(Max V.)	
S6D0110	132	176	260K	132*18*176	2.5~3.3	25V Max	Au bumped chip
S6D0114	132	176	260K	132*18*176	2.5~3.3	25V Max	Au bumped chip
S6D0117	132	132	260K	132*132*18	2.5~3.3	25V Max	Au bumped chip
S6D0118	176	240	260K	176*18*240	2.5~3.3	25V Max	Au bumped chip
S6D0123	132	176	260K	132*18*176	2.5~3.3	25V Max	Au bumped chip
S6D0129	240	320	260K	240*18*320	2.5~3.3	30V Max	Au bumped chip

NOTES: TCP (Tape Carrier Package)

COF (Chip On Film) is available in case of TCP

LCD DRIVER IC ORDERING INFORMATION

S	6	X	X	X	X	X	X	X	X	-	X	X	X	X
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. System LSI (S)		11. " - "									(14) Packing			
2. Large Classification: LDI (6)		12~14. Package Type									- In Case of TAB / COF			
3. Small Classification		- In Case of PKG									(12)(13) Film Type			
A : STN (Character)		B : STN (Graphic)		C : CHIP BIZ			E : LQFP			00~49 → TAB				
C : TFT (Large)		D : TFT (Mobile)		J : ELP			K : TR			50~99 → COF				
F : TFT (Midsmall)		E : OELD		N : COB			Q : QFP			(14) Revision				
P : PDI (DUAL)		T : TCON		S : SOP			T : TQFP			1st Version → X				
V : Process Vehicle		W : WAFER			X : ETQFP			15. Back Lap						
4~7.		(13) Reserved									0 : No Grinding			
Serial No.		- PKG Option									1 : 250±10um			
8. Version		0 : none									5 : 200±10um			
A~Z		1 : Special Handling 1			2 : Special Handling 2			8 : 300±10um (CHIP BIZ)			9 : 280±10um			
*1st Version → X		3 : Special Handling 3			A : Test Condition 1			A : 300±10um			C : 300±10um (Wafer)			
9~10. Mask Option		B : Customer Option 1			C : Customer Option 2			G : 375±10um (CHIP BIZ)			J : 425±10um			
- STN (Character)		D : Customer Option 3			E : Customer Option 4			K : 400±10um			L : 450±10um			
00~99: Font		G : Customer Option 6			H : Customer Option 7			M : 470±10um (Wafer)			N : 470±10um			
- STN (Graphic)		J : Customer Option 8			K : Customer Option 9			R : 350±10um (Wafer)			U : 610±10um			
Mask Option		L : Customer Option 10			M : Customer Option 11			V : 500±10um (CHIP BIZ)			W : 425±10um (Wafer)			
- TFT Device		N : Customer Option 12			P : Customer Option 13			X : 425±10um (CHIP BIZ)			Y : 470±10um (CHIP BIZ)			
Mask Option		- WAFER									Z : No Grinding (CHIP / Wafer)			
		0 : BUMP			1 : NO BUMP									

MOBILE APPLICATION PROCESSORS

Part Number	Max Core (Cache)	Max Freq	Memory Interface	Boot Option	Multimedia Features	Connectivity	Timer/PWM Counter	Serial Interface	DMA	Package
S3C3410	ARM7TDMI (4KB)	40MHz	ROM/SRAM SRAM	NOR/ROM	LCD I/F 10-bit ADC x 8		WDT, RTC	UART/IIC 8/16-bit TCx5	2-ch SIOx2	128QFP
S3C44B0	ARM7TDMI (8KB)	66MHz	ROM/SRAM SDRAM	NOR/ROM	Mono/Color/Gray STN LCD I/F, IIS, 10-bit ADC x 8		WDT, RTC 16-bit TCx5	UARTx2 IIC/IIS	4-ch	160LQFP 160FBGA
S3C2412	ARM926EJ-S (8KB I/D)	200MHz 266MHz	ROM/SRAM SDRAM/mSDRAM NAND	NOR /ROM NAND	TFT/STN(65K) LCD I/F, Touch Screen(ADC), IIS	USB host 1.1 USB device 1.1 SD(SDIO)/MMC CF/ATA	WDT, RTC 16-bit TC x4	UARTx3(IrDA) SPIx2 IIC	4-ch	272FBGA
S3C2413	ARM926EJ-S (8KB I/D)	266MHz	ROM/SRAM SDRAM/mSDRAM DDR/mDDR x16 NAND/oneNAND	NOR/ROM NAND OneNAND	TFT/STN(65K) LCD I/F, Camera I/F 2MP, Touch Screen(ADC), IIS	USB host 1.1 USB device 1.1 SD(SDIO)/MMC, CF/ATA	WDT, RTC 16-bit TC x4	UARTx3(IrDA) SPIx2 IIC	4-ch	289FBGA
S3C2410	ARM920T (16KB-I,16KB-D)	200MHz 266MHz	ROM/SRAM SDRAM/mSDRAM NAND	NOR/ROM NAND	TFT/STN LCD I/F, Touch Screen(ADC), IIS	USB host 1.1 USB device 1.1 SD(SDIO)/MMC	WDT, RTC 16-bit TC x4	UARTx3(IrDA) SPIx2 IIC	4-ch	272FBGA
S3C2440	ARM920T (16KB-I,16KB-D)	300MHz 400MHz	ROM/SRAM SDRAM/mSDRAM NAND	NOR/ROM NAND	TFT/STN LCD I/F, Touch Screen(ADC), IIS, AC97, Camera I/F 16MP	USB host 1.1 USB device 1.1 SD(SDIO)/MMC	WDT, RTC 16-bit TC x4	UARTx3(IrDA) SPIx2 IIC	4-ch	289FBGA
SC32442	ARM920T (16KB-I,16KB-D)	300MHz 400MHz	Stacked with 32/64MB mSDRAM, 64/128MB NAND	NOR/ROM NAND	TFT/STN LCD I/F, Touch Screen(ADC), IIS, AC97, Camera I/F 16MP	USB host 1.1 USB device 1.1 SD(SDIO)/MMC	WDT, RTC 16-bit TC x4	UARTx3(IrDA) SPIx2 IIC	4-ch	332FBGA
S3C24A0	ARM926EJ-S (16KB-I,16KB-D)	266MHz	ROM/SRAM SDRAM/mSDRAM NAND	NOR/ROM NAND	TFT/STN LCD I/F, Touch Screen(ADC), IIS, AC97, Camera I/F 16MP Video CODEC(H.263/MPEG4) Modem I/F	USB host 1.1 USB device 1.1 SD(SDIO)/MMC Memory Stick	WDT, RTC 16-bit TC x4	UARTx2(IrDA) SPIx2 IIC IrDA(v1.1)	4-ch	337FBGA
S3C2443	ARM920T (16KB-I,16KB-D)	400MHz 533MHz	ROM/SRAM SDRAM/mSDRAM DDR/mDDR x16 NAND/oneNAND	NOR/ROM NAND OneNAND	TFT(2-PIP)/STN LCD I/F, Camera I/F 8MP, IIS, AC97, Touch Screen(ADC)	USB host 1.1 USB device 1.1 SD(SDIO)/MMC x2 HS-MMC(CE-ATA) CF/ATA	WDT, RTC	UARTx4(IrDA) 16-bit TC x4 IIC IrDA(v1.1)	6-ch SPIx2	400FBGA
S3C6400	ARM1176JZF (16KB-I,16KB-D) (16KB I/D TCM)	400MHz 533MHz 667MHz	ROM/SRAM DDR/mDDR x32 NAND/OneNAND	NOR/ROM NAND OneNAND MoviNAND Others	TFT(5-PIP) LCD I/F, Camera I/F 16MP, Touch Screen(ADC), 2D Graphic, IIS, AC97, PCM Video CODEC(H264,MPEG4,VC1) JPEG, TV-OUT	USB host 1.1, USB OTG 2.0 SD(SDIO)/MMC x3 HS-MMC(CE-ATA) CF/ATA Keypad, MIPI Modem Interface	WDT, RTC	UARTx4(IrDA) 32-bit TC x5 IIC IrDA(v1.1)	32-ch SPIx2	424FBGA

HDTV/STB PRODUCTS

Part Number	S3C2800	S5H2000	S5H2010
Product Description	Co-Processor for DTV MPEG Decoder	DTV MPEG Decoder	DTV MPEG Decoder
Typical Applications	Set top box, HDTV, General Purpose	Low-Mid-Range HDTV/STB	Low-Mid-Range HDTV/STB
Package	208 LQFP	352 TBGA	492 BGA
CPU Core	ARM920T	Uses External S3C2800 CPU	Uses External S3C2800 CPU
Max Frequency	200MHz	135MHz	135MHz
Data Bus (bits)	32	32	32
Serial Interface	PCI (32 bits, 33MHz)	PCI (32 bits, 33MHz)	PCI (32 bits, 33MHz, UART, Smart Card)
I/O Pins		244	276
I/O Ports	44 General Purpose		
Interupts (Ext)	34		
Timer	3-Ch, 16-Bit Watchdog		
Cache	16KB-I, 16KB-D		
DMA/UART	4-Ch / 2-Ch		
Other Features	On-Chip PLL Clock Generator	Display Processor (IPC, Scaler) Digital HD (24bits)/SD (8bits) Input CCIR 656-like input Digital/Analog HD output Analog SD output 2 Sets of Triple 10 bit DAC	Display Processor (IPC, Scaler) Digital HD (24bits)/SD (8bits) input CCIR 656-like input Digital/Analog HD output Analog SD output 2 Sets of Triple 10 bit DAC with enhanced CAS
		2D Graphics, TS Demux	2D Graphics, TS Demux Enhanced

4-BIT MICROCONTROLLER FAMILY

Part Name	Package	ROM	RAM	Interrupt (Int/Ext)	Timer/ Counters	LCD SIO	ADC (Bit x Ch)	PWM(1) (BitxCh)	Max. OSC. Freq.	OTP Equivalent			
	Type	Kbytes	Nibble								I/O Pins	(Seg/Com)	(Bit x Ch)
SS3C7xxx (KS57) Series													
S3C70F4XZ0-AV94	30SDIP	4	512	24	3/2	BT/WT/8TC	Yes	Comx4	6MHz	1.8~5.5	S3P70F4X		
S3C70F4XZ0-S094	32SOP												
S3C7235DZ0-QW85	80QFP	16	512	40	3/3	BT/WT/WDT/8T	Yes	32/4	6MHz	1.8~5.5	S3P7235X		
S3C72H8XZ0-QT88	64QFP	8	512	21	3/3	BT/WT/WDT/8T/16T		26/4	6MHz	1.8~5.5	S3P72H8X		
S3C72K8XZ0-QW88	80QFP	8	1024	27	3/4	BT/WT/8TC	Yes	40/8	6MHz	2.0~5.5	S3P72K8X		
S3C72M9XZ0-QA89	128QFP	32	3840	51	5/4	BT/WT/WDT/8T/16T	Yes	80/16	6MHz	1.8~5.5	S3P72M9X		
S3C72N5XZ0-QW85	80QFP	16	512	40	3/3	BT/WT/8TC	Yes	32/4	6MHz	1.8~5.5	S3P72N5X		
S3C72P9XZ0-QX89	100QFP	32	1056	39	4/4	BT/WT/8TC/16TC	Yes	56/16	6MHz	1.8~5.5	S3P72P9X		
S3C72Q5XZ0-QX85	100QFP	16	5264	39	3/3	BT/WT/8TCx2		60/12	6MHz	1.8~5.5	S3P72Q5X		
S3C7335XZ0-QW85	80QFP	16	512	56	4/4	BT/WT/WDT/8T	Yes	28/4	8x4	6MHz	1.8~5.5	S3P7335X	
S3C7414DZ0-AQ94	42SDIP	4	256	35	5/3	BT/WT/WDT/8Tx2	Yes		8x6	(8x1)	6MHz	1.8~5.5	S3P7414D
S3C7414DZ0-QZ84	44QFP												
S3C7515DZ0-AT95	64SDIP	16	512	55	4/3	BT/WT/8Tx2	Yes			Yes	6MHz	2.0~5.5	S3P7515D
S3C7515DZ0-QT85	64QFP												
S3C7528DZ0-AQ98	42SDIP	8	768	35	3/3	BT/WT/WDT/8Tx2				Yes	6MHz	1.8~5.5	S3P7528D
S3C7528DZ0-QZ88	44QFP												
S3C7544XZ0-AM94	24SDIP	4	512	17	2/2	BT/WDT/8T					6MHz	1.8~5.5	S3P7544X
S3C7544XZ0-SM94	24SOP												
S3C7559XZ0-AT99	64SDIP	32	1024	55	4/3	BT/WT/WDT/8Tx2	Yes			Yes	6MHz	1.8~5.5	S3P7559X
S3C7559XZ0-QT89	64QFP												
S3C7588AZ0-COC8	44Pellet	8	768	25	4/4	BT/WT/WDT/8TCx2				Yes	3.58MHz	2.7~5.5	S3P7588X

NOTES: *Under development. Contact Samsung sales office for availability.
 (1) () S/W supported PWM
 (2) SIO mode can be selected by S/W
 (3) Flash: Writing endurance is 10K times

(4) MTP: Writing endurance is 100 times
Abbreviations:
 ADC=Analog to Digital Converter
 DTMF=Dual Tone Multi Frequency
 CAS=CPE Alerting Signal

PWM=Pulse Width Modulation
 SIO=Serial Input/Output
 8T/16T=8-bit /16-bit Timer
 BT/WT/WDT=Basic/Watch/Watchdog Timer
 DAC=Digital to Analog Converter

ZCD=Zero Cross Detection circuit
 Com=Comparator
 FSK=Frequency Shift Keying

8-BIT MICROCONTROLLER FAMILY

Part Name	Package Type	ROM	RAM		Interrupt (Int/Ext)	Timer/ Counter	Serial Interface	LCD (Seg/Com)	ADC (Bit x Ch)	PWM(1) (BitxCh)	Max. OSC.		OTP or Flash Equivalent
		Kbytes	Bytes	I/O Pins							Freq.	Vdd (V)	
S3C9xxx (KS86) Series													
S3C9228AZO-AQ98	42SDIP	8	256	36	4/10	BT/WT/8TCx2	SIO	16x8	10x4		8MHz	2.0~5.5	S3P9228A
S3C9228AZO-QZ88	44QFP												
S3C9228AZO-LR88	48ELP												
S3C9234XZO-QT84	64QFP	4	208	52	5/7	BT/WT/8TCx2	SIO	32/4			8MHz	2.0~5.5	S3P9234X
S3C9404DZO-AV94	30SDIP	4	208	22	3/3	BT/WDT/8Tx2			8x8	(10x1)	10MHz	2.7~5.5	S3P9404D
S3C9404DZO-SO94	32SOP												
S3C9428XZO-SN98	28SOP	8	208	24	5/4	BT/WDT/8Tx2	IIC, SIO		10x12	12x2, (8x1)	16MHz	1.8~5.5	S3P9428X
S3C9428XZO-SO98	32SOP												
S3C9428XZO-AV98	30SDIP												
S3C9434XZO-DI94	18DIP	4	112	11/13	3/2	BT/WDT/8T	SIO		10x5	12x1	16MHz	3.0~5.5	S3P9434X
S3C9434XZO-DK94	20DIP												
S3C9434XZO-SK94	20SOP												
S3C9444XZO-SC94	8SOP	4	208	6	1/2	BT/8TC			10x3		10MHz	2.0~5.5	S3F9444X(4)
S3C9444XZO-DC94	8DIP												
S3C9454BZO-DH94	16DIP	4	208	14/18	2/2	BT/8TC			10x9	8x1	10MHz	2.0~5.5	S3F9454B(4)
S3C9454BZO-SH94	16SOP												
S3C9454BZO-RH94	16TSSOP												
S3C9454BZO-DK94	20DIP												
S3C9454BZO-SK94	20SOP												
S3C9454BZO-VK94	20SSOP												
S3C9488XZO-AO98	32SDIP	8	208	26/36/38	6/4	BT/8T	UART	19/8	10x9		10MHz	2.2~5.5	S3F9488X(4)
S3C9488XZO-SO98	32SOP												
S3C9488XZO-AQ98	42SDIP												
S3C9488XZO-QZ88	44QFP												
S3C9498XZO-SN98	28SOP	8	208	22/24/26	11/5	BT/8TCx4/16TC	SIO, UART		10x8	12x1, (8x1)	8MHz	2.0~5.5	S3F9498X(4)
S3C9498XZO-SO98	32SOP												
S3C9498XZO-AO98	32SDIP												
S3C9498XZO-AV98	30SDIP												
S3C94A5XZO-QZ85	44QFP	16	368	34	8/15	BT/WT/8TC/16TCx2	SIO		10x16	8x1, 16x2	12MHz	2.0~5.5	S3F94A5X(4)
S3C94A5XZO-AQ95	42SDIP												
S3C94A5XZO-AO95	32SDIP												
S3C9688XZO-AQ98	42SDIP	8	208	32	15/14	BT/WDT/8T	USB				6MHz	4.0~5.25	S3P9688X
S3C9688XZO-QZ88	44QFP												
S3C8xxx (KS88) Series													
S3C80A5BZO-SM95	24SOP	16	272	19	5/8	BT/WDT/8Tx2/16T				8x1	8MHz	2.0~3.6	S3P80A5A
S3C80A5BZO-AM95	24SDIP												
S3C80B5XZO-SM95	24SOP	16	272	19	5/8	BT/WDT/8Tx2/16T				8x1	4MHz	1.7~3.6	S3P80B5X
S3C80B5XZO-AM95	24SDIP												
S3C80C5XZO-SM95	24SOP	16	272	19	5/8	BT/WDT/8Tx2/16T				8x1	4MHz	1.7~3.6	S3P80C5X
S3C80C5XZO-AM95	24SDIP												
S3C80F9BZO-SO99	32SOP	32	272	38	5/16	BT/8TC/16TC				8x1	8MHz	2.0~5.0	S3P80F9X
S3C80F9BZO-AQ99	42SDIP												
S3C80F9BZO-QZ89	44QFP												
S3C80F9BZO-LR89	48ELP												
S3C80G9BZO-SN99	28SOP	32	272	38	5/16	BT/8TC/16TC				8x1	4MHz	1.7~3.6	S3P80G9X
S3C80G9BZO-SO99	32SOP												
S3C80G9BZO-AQ99	42SDIP												
S3C80G9BZO-QZ89	44QFP												
S3C80J9XZO-SO99	32SOP	32	272	26	12/10	BT/8T/16T				8x1	8MHz	1.95~3.6	S3F80J9X(3)
S3C80J9XZO-SN99	28SOP												
S3C80JBBZO-QZ8B	44QFP	64	272	38	14/10	BT/8T/16Tx2			COMx4	8x1	8MHz	1.95~3.6	S3F80JBB(3)
S3C80JBBZO-SO9B	32SOP												
S3F80K5XZO-SM95	44QFP	16	272	22	16/8	BT/8T/16Tx2				8x1	8MHz	1.65~3.6	S3F80K5X(3)
S3F80K5XZO-SN95	32SOP												
S3F80K9XZO-QZ89	44QFP	32	272	38	16/8	BT/8T/16Tx2				8x1	8MHz	1.65~3.6	S3F80K9X(3)
S3F80K9XZO-SO99	32SOP												
S3F80K9XZO-SN99	28SOP												
S3F80KBXZO-QZ8B	44QFP	64	272	38	16/8	BT/8T/16Tx2				8x1	8MHz	1.65~3.6	S3F80KBX(3)
S3F80KBXZO-SO9B	32SOP												
S3F80L4XZO-AO94	32SDIP	4	144	26	2/8	BT/8TC				8x1	8MHz	2.0~5.5	S3F80L4X(4)
S3F80L4XZO-SO94	32SOP												
S3F80L4XZO-SN94	28SOP												
S3C80M4XZO-DK94	20DIP	4	128	15/11	2/4	BT/8TC				8x1	10MHz	2.0~5.5	S3F80M4X(4)
S3C80M4XZO-SK94	20SOP												
S3C80M4XZO-DH94	16DIP												
S3C80M4XZO-SH94	16SOP												

8-BIT MICROCONTROLLER FAMILY

Part Name	Package Type	ROM	RAM	Interrupt I/O Pins	Timer/ Counter (Int/Ext)	Serial Interface	LCD (Seg/Com)	ADC (Bit x Ch)	PWM(1) (BitxCh)	Max. OSC.		OTP or Flash Equivalent	
		Kbytes	Bytes							Freq.	Vdd (V)		
S3C8xxx (KS88) Series													
S3C8235BZ0-QT85	64QFP	16	552	32	8/8	BT/8TCx2/16TC	24/8	10x8	8x2	8MHz	2.0~5.5	S3F8235X(4)	
S3C8235BZ0-ET85	64LQFP												
S3C8245AZ0-TW85	80TQFP	16	544	45	8/8	BT/WDT/8Tx2/16Tx2	SIO	32/4	10x8	(8x2, 16x1)	10MHz	1.8~5.5	S3P8245X
S3C8245AZ0-QW85	80QFP												
S3C8249XZ0-TW89	80TQFP	32	1056	45	8/8	BT/WDT/8Tx2/16Tx2	SIO	32/4	10x8	(8x2, 16x1)	10MHz	1.8~5.5	S3P8249X
S3C8249XZ0-QW89	80QFP												
S3C825ACZ0-TW8A	80TQFP	48	2096	67	11/12	BT/WT/8TC/16TC	SIO, UART	28/8	10x4	(8x1, 16x1)	8MHz	2.0~5.5	S3P825AX
S3C825ACZ0-QW8A	80QFP												
S3C826AXZ0-QC8A	144QFP	48	2k	128	9/12	BT/8TCx3/16TC	SIO	80/16	8x4	8x2	8MHz	2.0~5.5	S3P826AX
S3C8274XZ0-QT84	64QFP	4	256	52	4/8	WT/BT/8TCx2	SIO	32/4			8MHz	2.0~3.6	S3F8274X(4)
S3C8274XZ0-ET84	64LQFP												
S3C8275XZ0-QT85	64QFP	16	512									S3F8275X(3)	
S3C8275XZ0-ET85	64LQFP												
S3C8278XZ0-QT88	64QFP	8	256									S3F8278X(4)	
S3C8278XZ0-ET88	64LQFP												
S3C8285XZ0-QW85	80QFP	16	512	65	10/8	BT/WT/8TCx2/16TCx2	UART, SIO	32/8	10x8	8x1, 16x1	11.1MHz	2.0~3.6	S3F8285X(4)
S3C8285XZ0-TW85	80TQFP												
S3C8289XZ0-QW89	80QFP	32	1024									S3F8289X(4)	
S3C8289XZ0-TW89	80TQFP												
S3C828BXZ0-QW8B	80QFP	64	2560									S3F828BX(3)	
S3C828BXZ0-TW8B	80TQFP												
S3F82E5XZ0-QZ85	44QFP	16	208	38	5/4	BT/WT/8TC	SIO	23/4			8MHz	2.0~3.6	S3F82E5X(4)
S3F82E5XZ0-TB85	48TQFP												
S3F82F5XZ0-QX85	100QFP	16	2.5K	44	6/12	BT/WT/8TCx2/16TC	SIO	60/16		8x1	8MHz	2.0~5.0	S3F82F5X(4)
S3F82F5XZ0-TX85	100TQFP												
S3F82HBXZ-QX8B	100QFP	64	2.5K	83	17/12	BT/WT/8TCx2/16TCx2	UARTx2, SIO	52/8	10x8	8x1, 16x2	12MHz	2.0~3.6	S3F82HBX(3)
S3F82HBXZ-TX8B	100TQFP												
S3F82I9XZ-QW89	80QFP	32	1024	63	10/8	BT/WT/8TCx2/16TCx2	UART, SIO	32/8	10x8	8x1, 16x2	12MHz	2.0~3.6	S3F82I9X (3)
S3F82I9XZ-TW89	80TQFP												
S3C830AXZ-QX8A	100QFP	48	2084	72	10/8	BT/WDT/8Tx2/16T	SIOx2	40/4	8x4	8x1	4.5MHz	3.0~5.5	S3P830AX
S3F833BXZ-QX8B	100QFP	64	2.5K	86	13/8	BT/WDT/WT/8Tx2/16T	SIOx2, UARTx2	40/8	10x12	8x1	12MHz	2.0~3.6	Flash Only S3F833BX(4)
S3F834BXZ-TX8B	100TQFP	64	2.5K	86	13/8	BT/WDT/WT/8Tx2/16T	SIOx2, UARTx2	40/8	10x12	8x1	12MHz	2.0~3.6	Flash Only S3F834BX(4)
S3C8454XZ0-TW84	80TQFP	4	1040	42	8/8	BT/WDT/8Tx2/16Tx2	SIO		8x4	8x2, (16x2)	25MHz	4.5~5.5	S3P8454X
S3C8454XZ0-QW84	80QFP												
S3C8469XZ0-AT99	64SDIP	32	528	56	11/10	BT/WDT/8Tx2/16Tx2	UART, SIO		10x8	14x2, (8x2)	12MHz	2.7~5.5	S3P8469X
S3C8469XZ0-QT89	64QFP												
S3C8469XZ0-LT89	64ELP												
S3C8475XZ0-AQ95	42SDIP	16	272	36	6/8	BT/WDT/8T/16T	UARTx2		10x8	(8x1, 10x1)	12MHz	2.7~5.5	S3P8475X
S3C8475XZ0-QZ85	44QFP												
S3C848AXZ-AT9A	64SDIP	48	2064	56	15/14	BT/8TCx4/16Tx2	UARTx2 SIO		10x8	14x2, (8x2)	12MHz	2.7~5.5	S3P848AX
S3C848AXZ-QT8A	64QFP												
S3C848BXZ0-TW8B	80TQFP	64	2064	70	14/10	BT/8TCx2/16TCx2/8Tx2	UARTx2, SIO		10x8	8*1 (DAC)	10MHz	2.7~5.5	S3F848BX(3)
S3C848BXZ0-QW8B	80QFP												
S3C848BXZ0-TW8B	100TQFP	64	2064	90	14/10	BT/8TCx4/16TCx2	UARTx2, SIO	48/8	10x8	8*1 (DAC)	10MHz	2.7~5.5	S3F848BX(3)
S3C848BXZ0-QW8B	100QFP												
S3C84E9XZ0-AQ99	42SDIP	16	272	34/36	9/12	BT/WT/8T/8TC/16TCx2	UART		10x8	(8x1)	12MHz	2.7~5.5	S3P84E9X
S3C84E9XZ0-QZ89	44QFP												
S3C84H5XZ0-AO95	32SDIP	16	272	22/20/18	12/4	BT/WT/8TCx2/16TCx2	UART, SIO		10x8	10x1	10MHz	2.4~5.5	S3F84H5X(4)
S3C84H5XZ0-SO95	32SOP												
S3C84H5XZ0-LO85	32ELP												
S3C84H5XZ0-AV95	30SDIP												
S3C84H5XZ0-SN95	28SOP												
S3C84I8XZ0-AQ98	42SDIP	8	292	34/32	12/4	BT/WT/8TCx2/16TCx2	UART, SIO	16/8	10x8	10x1	10MHz	2.4~5.5	S3F84I8X(4)
S3C84I8XZ0-QZ88	44QFP												
S3C84I9XZ0-AQ99	42SDIP	32	528									S3F84I9X(3)	
S3C84I9XZ0-QZ89	44QFP												
S3F84K4XZ0-DH94	16DIP	4	208	11/18	2/2	BT/16(8X2)T			10x9	12x1	8MHz	2.0~5.5	Flash Only S3F84K4X(4)
S3F84K4XZ0-SH94	16SOP												
S3F84K4XZ0-RH94	16TSSOP												
S3F84K4XZ0-DK94	20DIP												
S3F84K4XZ0-SK94	20SOP												
S3F84K4XZ0-VK94	20SSOP												

8-BIT MICROCONTROLLER FAMILY

Part Name	Package Type	ROM Kbytes	RAM Bytes	I/O Pins	Interrupt (Int/Ext)	Timer/Counter	Serial Interface	LCD (Seg/Com)	ADC (Bit x Ch)	PWM(1) (BitxCh)	Max. OSC. Freq.	Vdd (V)	OTP or Flash Equivalent
S3C8xxx (KS88) Series													
S3F84MBXZ0-TW8B	80TQFP	64	2064	70	17/10	BT/8TCx2/16TCx2/8Tx2	UARTx3, SIOx2		10x5	8x2	10MHz	2.4~5.5	Flash Only S3F84MBX(3)
S3F84MBXZ0-QW8B	80QFP												
S3F84NBXZ0-AT9B*	64SDIP	64	2064	56	15/14	BT/8Tx3/16TCx2	UARTx2, SIO		10x8		10MHz	2.4~5.5	Flash Only S3F84MBX(3)
S3F84NBXZ0-QT8B*	64QFP												
S3F84P4XZ0-SC94	8SOP	4	208	6	2/2	BT/16(8X2)T			10x4	12x1	10MHz	2.0~5.5	Flash Only S3F84P4X(4)
S3F84P4XZ0-DC94	8DIP												
S3F84Q5XZ2-SN95*	28SOP	16	528	26	14/9	BT/WT/8TCx2/16TCx2	UART, SIO		10x8	14x1	10MHz	2.0~5.5	Flash Only S3F84Q5X(3)*
S3F84Q5XZ2-AV95*	30SDIP												
S3F84Q5XZ2-AO95*	32SDIP												
S3F84Q5XZ2-SO95*	32SOP												
S3F84S5XZ2-DH95*	16DIP	16	272	17/13	6	BT/8T			12x9	12x1	10MHz	2.4~5.5	Flash Only S3F84S5X(3)*
S3F84S5XZ2-DK95*	20DIP												
S3F84S5XZ2-SH95*	16SOP												
S3F84S5XZ2-SK95*	20SOP												
S3F84T5XZ2-SN95*	28SOP	16	272	18/20/22	16	BT/WT/8TCx2/16TCx2	UART, SIO		10x8	10x1	10MHz	2.4~5.5	Flash Only S3F84T5X(3)*
S3F84T5XZ2-AO95*	32SDIP												
S3F84T5XZ2-SO95*	32SOP												
S3F84UAXZ2-QZ8A*	44QFP	48	528	32/30	12/12	BT/WDT/WT/8TCx3/16TCx2	UARTx2, SIO	20/8	10x8	8x3	12MHz	1.8~5.5	Flash Only S3F84UAX(3)*
S3F84UAXZ2-AQ9A*	42SDIP												
S3F84VBXZ2-QT8B*	64QFP	64	2064	54	12/12	BT/WDT/WT/8TCx3/16TCx2	UARTx2, SIO		10x8	8x3	12MHz	1.8~5.5	Flash Only S3F84VBX(3)*
S3F84VBXZ2-AT9B*	64SDIP												
S3F84V9XZ2-QT89*	64QFP	32	1040	54	12/12	BT/WDT/WT/8TCx3/16TCx2	UARTx2, SIO		10x8	8x3	12MHz	1.8~5.5	Flash Only S3F84V9X(3)*
S3F84V9XZ2-AT99*	64SDIP												
S3F84YBXZ2-QW8B*	80TQFP	64	2064	70	13/12	BT/WDT/WT/8TCx4/16TCx2	UARTx2, SIO		10x8	8x4	12MHz	1.8~5.5	Flash Only S3F84YBX(3)*
S3F84YBXZ2-TW8B*	80QFP												
S3F84ZBXZ2-TX8B*	100TQFP	64	2064	90	13/14	BT/WDT/WT/8TCx4/16TCx2	UARTx2, SIO		10x8	8x4	12MHz	1.8~5.5	Flash Only S3F84ZBX(3)*
S3F84ZBXZ2-QX8B*	100QFP												
S3C851BXZ0-QD8B	160QFP	64	1808	42	1/7	BT/WDT/WT/8T/16T	UART, SIO	56/34	10x4		3.58MHz	2.7~5.5	S3P851BX
S3C863AXZ0-AQ9A	42SDIP	48	1040	27	7/3	BT/8TC/8T/12C	M/M IIC, Slave IIC		8x4	8x7	12MHz	3.0~5.5	S3P863AX
S3C863AXZ0-QZ8A	44QFP												
S3C8647XZ0-AO97	32SDIP	24	384	19	6/3	BT/8TC/8T/12C	IIC		4x4	8x6	12MHz	4.0~5.5	S3F8647X(4)
S3C866BXZ0-AQ9B	42SDIP	64	1040	30	9/2	BT/WDT/8TCx3	IIC		8x8	8x7	24MHz	2.3~3.6V	S3F866BX(4)
S3C866BXZ0-QZ8B	44QFP												
S3C866BXZ0-PZ9B	44PLCC												
S3C880AXZ0-AQ9A	42SDIP	48	336	26	5/4	BT/8TCx2			8x4	14x2, 8x4(8x1)	8MHz	4.5~5.5	S3F880AX(4)
S3C8849XZ0-AQ99	42SDIP	32	272	26	5/4	BT/WDT/8Tx2			4x4	14x2, 8x4(8x1)	8MHz	4.5~5.5	S3P8849X
S3CKxxx (Calm8) Series													
S3FK11XZ2-QA8F	128QFP	256	1K	90	13/8	BT/WT/8TCx2/16TC	SIO	64/16	10x1	8x1	8MHz	2.4~3.6	Flash Only S3FK11FX(4)
S3CK225XZ0-QT85	64QFP	16	384	48	9/4	BT/WT/8TCx2/16TC	SIO	32/4	10x8	8x2, 16x1	8MHz	2.4~3.6	S3FK225X(4)
S3CK225XZ0-ET85	64LQFP												
S3CK318XZ0-QZ88	44QFP	8	256	36	7/7	BT/WT/8TCx2/16TC	SIO	16/8	10x4	16x1	8MHz	2.4~3.6	S3F318X(4)

NOTES:

- 1 *Under Development. Contact Samsung sales office for availability
- 2 (1) () S/W supported PWM
- (2) SIO mode can be selected by S/W
- (3) Flash: Writing endurance is 10K times
- (4) MTP: Writing endurance is 100 times

3 Abbreviations:

- LVR = Low Voltage Reset
- ZCD=Zero Cross Detection circuit
- FSK=Frequency Shift Keying
- RDS=Radio Data System
- DAC=Digital to Analog Converter
- PWM=Pulse Width Modulation

SIO=Serial Input/Output

- LIN=Local Interface Network
- DTMF=Dual Tone Multi Frequency
- DDC=Display Data Channel
- SDT=Stuttered Dial Tone
- BT/WT/WDT=Basic/Watch/Watchdog timer
- 8T/16T=8-bit / 16-bit Timer

OSD=On Screen Display

- ADC=Analog to Digital Converter
- CAS=CPE Alerting Signal
- LVD = Low Voltage Detector
- PGM=Pattern Generation Module
- Com=Comparator

16-BIT MICROCONTROLLER FAMILY

Part Name	Package	ROM	RAM		Interrupt	Timer/	Serial	LCD	ADC	PWM(1)	Max. OSC.		Other
	Type	Kbytes	Bytes	I/O Pins	(Int/Ext)	Counter	Interface	(Seg/Com)	(Bit x Ch)	(BitxCh)	Freq.	Vdd (V)	Features
S3FC11BXZZ-QX8F	100QFP	64	10k	77	8/9	BT/WT/8TCx3	SIO	36/8	10X4	8x1	40MHz	2.0~3.6	MAC1616
S3FC11BXZZ-TX8F	100TQFP												
S3CC34DXZZ-QX8D	100QFP	128	4	90	20/16	BT/WT/8TCx3/16TCx3	UART, SIOx4		10X16	8x3, 16x3	12MHz	2.4~5.5	
S3CC34DXZZ-TX8D	100TQFP												
S3FC40DXZZ-QX8D	100QFP	128	6	90	30/16	BT/WT/8TCx2/16TCx8	UARTx3, SIOx2			10X24	8x2, 16x8	12MHz	2.4~5.5
S3FC40DXZZ-TX8D	100TQFP												
S3FC40DXZZ-QA8D	128QFP												

NOTES:

1 *Under Development. Contact Samsung sales office for availability.
2 (1) () S/W supported PWM
(2) SIO mode can be selected by S/W

(3) Flash: Writing endurance is 10K times
(4) MTP: Writing endurance is 100 times
3 Abbreviations:
LVR = Low Voltage Reset
ZCD=Zero Cross Detection circuit
FSK=Frequency Shift Keying

RDS=Radio Data System
DAC=Digital to Analog Converter
PWM=Pulse Width Modulation
SIO=Serial Input/Output
LIN=Local Interface Network
DTMF=Dual Tone Multi Frequency

DDC=Display Data Channel
SDT=Stuttered Dial Tone
BT/WT/WDT=Basic/Watch/ Watchdog timer
8T/16T=8-bit /16-bit Timer
OSD=On Screen Display

ADC=Analog to Digital Converter
CAS=CPE Alerting Signal
LVD = Low Voltage Detector
PGM=Pattern Generation Module
Com=Comparator

32-BIT MICROCONTROLLER FAMILY

Network Application

Part Name	CPU	Package	System	I/O	Interrupt	Ethernet	HDLC	USB	Timer	Serial	DES	PCI	SAR	GDMA	Max.	Vopr
	Type	Manager	Pins	(Int/Ext)	(10/100M)	Counter	Interface	3DES	OSC							
S3C4510B-QE80	ARM7TDMI	208QFP	SDRAM Memory (NOR,SRAM) IF	18	17/4	1ch	2ch		32bit 2ch	UARTx2, IIC				2ch	50MHz	3.3V
S3C4530A-QE80	ARM7TDMI	208QFP	SDRAM Memory (NOR,SRAM) IF	26	17/4	1ch	2ch		32bit 2ch	UARTx2, IIC				2ch	50MHz	3.3V
SS3C2510A-GB80	ARM940T	416PBGA	SDRAM Memory (NOR,SRAM) IF	64	30/6	2ch		1 Device (F-speed) 1 Host (F-speed, support 2device)	32bit 2ch, WDT	UARTx3, IIC	Yes	Yes	"UTOPIA I/F	6ch	166MHz	1.8/3/3V

Inverter Motor Application

Part Name	CPU	Package	ROM / Flash	RAM	I/O Pins	Interrupt	IMC	ENC	Timer /	Serial	ADC	Max.	Vopr
	Type	(KByte)	(KByte)	(KByte)	(Int/Ext)	Counter	Interface	OSC					
S3F401FXZZ-QX8F*	ARM7TDMI	100QFP	256	20	66	59/31	2ch	2ch	BT/WDT/16BTx6	UARTx2, SSPx2	12x15	90MHz	3.0~3.6
S3F401FXZZ-TX8F*	100TQFP												

CAN/LIN Application

Part Name	CPU	Package	ROM/Flash	Data Flash	RAM	I/O	Interrupt	CAN / LIN	Stepper	Timer /	Serial	LCD	ADC	PWM	Max	Vopr
	Type	(KByte)	(KByte)	(KByte)	(KByte)	Pins	(Int/Ext)	Motor	Counter	Interface	Interface				OSC	
S3F4A0KRZZ-EC8K	ARM7TDMI	144LQFP	1024	32	32	111	44/20	4ch/3ch	"6ch (Driver 4ch)	WDT(16x1) STO(16x2) ST1(16x2) ST2(16x2) GPT(16x3) STT(32x1)	SPI0(8X1) SPI1(16x1) IIC(2ch)	40/4	10x16	8x12 16x2	40MHz	3.0~5.5
S3F4A0KJZZ-EC8K																
S3F4A1HRZZ-TX8H	ARM7TDMI	100TQFP	512	32	16	74	52/12	2ch/3ch	4ch	WDT(16x1) STO(16x2) ST1(16x2) GPT(16x3) STT(32x1)	SPI0(8X1) SPI1(16x1) IIC(2ch)	30/4	10x16	8X8 16x2	40MHz	3.0~5.5
S3F4A1HJZZ-TX8H																
S3F4A2FRZZ-TW8F*	ARM7TDMI	80TQFP	256		8	59	54/10	1ch/2ch		WDT(16x1) STO(16x2) ST1(16x2) GPT(16x3) STT(32x1)	SPI0(8X1) SPI1(16x1) IIC(2ch)		10x16	16x8	20MHz	3.0~5.5
S3F4A2FJZZ-TW8F*																

32-BIT MICROCONTROLLER FAMILY

General Purpose Application

Part Name	CPU	Package	ROM	RAM	I/O Pins	Interrupt	Timer /	Serial	ADC	PWM	Max	Vopr
	Type	(KByte)	(KByte)	(KByte)	(Int/Ext)	Counter	Interface	Interface		OSC		
S3F441FXZZ-ETRF	ARM7TDMI	64LQFP	256	8	16	16/3	BT/WDT/16TCx6	UART			40MHz	3.0~3.6
S3F443FXZZ-ET8F	ARM7TDMI	64LQFP	256	8	16	18/3	BT/WDT/16TCx6	UART		8x1	40MHz	3.0~3.6
S3F445HXZZ-TX8H	ARM7TDMI	100TQFP	512	16	73	22/8	BT/WDT/16TCx6	UARTx2	10x8		40MHz	3.0~3.6

NOTES:

1 *Under Development. Contact Samsung sales office for availability.

2 Abbreviations:
ADC=Analog to Digital Converter
BT/WT/WDT=Basic/Watch/ Watchdog timer

SST=Stamp Timer
GPT=General Purpose timer
SSP=Synchronous Serial Port

IMC=Inverter Motor Controller
ENC=Encoder Counter
LIN=Local Interface Network

MICROCONTROLLER ORDERING INFORMATION

S	3	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1. System LSI (S)						11. (--)						C: 8	H: 16	I: 18				
2. Large Classification: Microcontroller(3)						12. Package Type						K: 20	M: 24	N: 28				
3. Small Classification						A: SDIP						B: LGA						
C: MASK ROM						E: EVA-CHIP						D: DIP						
F: FLASH						P: OTP						F: WQFP						
3: MCP						G: BGA						H: CSP						
4. Core						J: BQFP						K: UELP						
1: 51 4-bit						2: 32-bit ARM9						M: QFP						
3: 17 16-bit						4: 32 32-bit						P: PLCC						
5: 32-bit ARM10						6: 56 4-bit						S: SOP						
7: 57 4-bit						8: 88 8-bit						V: TEBGA						
9: 86 8-bit						A: 15 Other						Y: FBGA						
B: 8-bit CALM RISC MAC						3. Package Pin						- TQFP						
C: 16-bit CALM RISC MAC						Wafer/CHIP BIZ = 0(NONE)						A: 128						
D: 32-bit CALM RISC MAC						- SDIP						T: 64						
I: CUSTOM MCU						B: 56						M: 24						
J: SC-200						Q: 42						O: 32						
K: 8-bit CALM RISC						- LGA						T: 64						
L: 16-bit CALM RISC						A: 88						C: 83						
R: 128-bit CALM RISC						- DIP						J: 176						
S: SC-100						C: 8						H: 16						
5~6. Application Category						K: 20						N: 28						
0n: General Purpose						1n: Voice						- LQFP						
2n: LCD						3n: Audio						C: 144						
4n: General A/D						5n: Telecom						D: 160						
6n: PC & Peripheral,OA						7n: VFD						E: 208						
8n: Video						9n: Special (IC Card)						G: 256						
An: General Purpose-1						Cn: C						J: 176						
Fn: Telecom-1						Nn: Intel Application						T: 64						
Zn: Assignment Code						- BGA						W: 80						
* "n": Serial No (1°,Z)						- DSP						X: 100						
7. Rom Master						J: 176						- WQFP						
0: 0K byte						1: 1K byte						T: 64						
2: 2K byte						3: 12K byte						- UELP						
4: 4K byte						5: 16K byte						B: 132						
6: 6K byte						7: 24K byte						T: 64						
8: 8K byte						9: 32K byte						- ELP						
A: 48K byte						B: 64K byte						R: 48						
C: 96K byte						D: 128K byte						T: 64						
F: 256K byte						G: 384K byte						- QFP						
H: 512K byte						J: 1M byte						D: 160						
K: 1M byte						- COB						F: 240						
8. Version						C: 8						D: 8CNCL						
A~Z						- PLCC						C: 52						
*1st Version ~ X						C: 52						Z: 44						
9~10. Mask Option						- QFP						A: 128						
						A: 128						C: 144						
						E: 208						D: 160						
						T: 64						E: 208						
						X: 100						G: 256						
						- SOP						T: 64						
												U: 304						
												W: 80						
												Z: 44						
												- TEBGA						
												X: 492						
												- FBGA						
												A: 337						
												B: 81						
												C: 144						
												D: 160						
												E: 208						
												F: 180						
												G: 285						
												H: 320						
												K: 105						
												L: 400						
												O: 272						
												P: 504						
												Q: 289						
												T: 64						
												- SBGA						
												A: 432						
												- WAFER						
												O: None						
												1: Cust1						
												2: Cust2						
												14. Packing						
												B: Tube						
												U: Bulk						
												R: Tray						
												T: Tape & Reel						
												S: Tape & Reel Reverse						
												C: Chip Biz						
												D: Chip Biz (3 Inch tray)						
												E: Chip Biz (4 Inch tray)						
												F: Chip Biz (Reverse)						
												W: WF Biz Draft Wafer						
												X: WF Biz Full Cutting						
												7: Tape & Reel (Pb-Free PKG)						
												8: Tray (Pb-Free PKG)						
												9: Tube (Pb-Free PKG)						
												15. ROM Size						
												0: 0K byte						
												1: 1K byte						
												2: 2K byte						
												3: 12K byte						
												4: 4K byte						
												5: 16K byte						
												6: 6K byte						
												7: 24K byte						
												8: 8K byte						
												9: 32K byte						
												A: 48K byte						
												B: 64K byte						
												C: 96K byte						
												D: 128K byte						
												E: Extended F: 256K byte						
												G: 384K byte						
												H: 512K byte						
												J: 1M byte						
												K: 1M byte						
												M: Military						
												N: Industrial						
												X: Special MK3						
												Y: Special MK2						
												Z: Special MK1						
												* Smart Card IC: EEPROM Size						
												* X,Y,Z: Special Marking (MASKROM)						

SERIAL EEPROMS

Part Number	Density (bit)	Write Protection	Vopr (V)	Write Cycle		Package
				Time (Max)	Interface	
S524A40X20-RC70	2K	by Hardware & Software	1.8 ~ 5.5	5 ms		
S524A40X21-DC90						
S524A40X21-SC90						
S524A40X21-SC70 /	4K	by Hardware	1.8 ~ 5.5	5 ms	I2C BUS	
S524A40X41-DC90						
S524A40X41-SC90						
S524A40X41-SC70	16K	by Hardware	1.8 ~ 5.5	5 ms		
S524A60X51-DC90						
S524A60X51-SC90						
S524A60X51-SC70	8K	by Hardware	1.8 ~ 5.5	5 ms		DC90 = 8DIP SC90 = 8SOP SC70 = 8SOP (T&R) RC70 = 8TSSOP (T&R)
S524A60X81-DC90						
S524A60X81-SC90						
S524A60X81-SC70	32K	by Hardware	1.8 ~ 5.5	5 ms		
S524A90X91-DC90						
S524A90X91-SC90						
S524A90X91-SC70	64K	by Hardware	1.8 ~ 5.5	5 ms		
S524A90XB1-DC90						
S524A90XB1-SC90						
S524A90XB1-SC70	256K	by Hardware	1.8 ~ 5.5	5 ms		
S524AD0XF1-RC70						
S524AE0AH1-RC70						
S524AE0AH1-RC70	512K	by Hardware	1.8 ~ 5.5	5 ms		

NOTES: All listed products are in production
 Temperature: -25 ~ 70c
 All products offer 100-year data retention, a 16M page buffer and two-wired serial I2C-bus interfaces.
 All products operate at 100KHz, 400KHz clock frequency.
 Package: DCBO=8DIP

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