

SELECTION GUIDE 2014



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An  IXYS Company

A Global Supplier of Innovative Embedded Control Solutions

A silicon Valley pioneer, Zilog is a trusted supplier of application-specific embedded System-on-chip (SoC) for the industrial and consumer markets. Zilog is a wholly-owned subsidiary of IXYS Corporation and is headquartered in Milpitas, California.



Zilog S3 Family of 8bit Flash Memory Embedded Microcontrollers

Program Memory (KB)	64					S3F80PB		S3F80QB*	S3F80PB		S3F8S6B*	S3F8S7B*	S3F8S8B*	S3F82NB
	48						S3F8S5A*	S3F8S5A*						
	32				S3F80P9	S3F8S39 S3F80P9			S3F80P9	S3F8S19				
	16			S3F80P5 S3F80Q5*		S3F8S35 S3F8S45*		S3F8S45*	S3F8S45*	S3F8S15				
	8	S3F94C8	S3F84B8 S3F8S28 S3F94C8	S3F8S28										
	4	S3F94C4	S3F8S24 S3F94C4	S3F8S24										
General Purpose		16	20	24	28	32	40	42	44	48	64	80	100	128
Package Pins														

Program Memory (KB)	64				S3F80PB	S3F80PB S3F80QB*
	48					
	32			S3F80P9	S3F80P9	S3F80P9
	16	S3F80P5 S3F80Q5*				
	8					
	4					
Remote Control		24	28	32	44	
Package Pins						

* : New products. All products are under mass production

Remote Control

Part Number	MCU Core	Memory		GP I/O	Serial	Timers	Analog	Voltage: min/max Current: Run/Idle/Stop Typ. @ 8MHz	Package
		Flash (KB)	Ram (Bytes)						
S3F80P5	SAM8 RC	18	272+ 1KB Exec	19	-	1 - 8-bit (Basic/WD) 1 - 8-bit (Carrier) 1 - 8-bit (Int/Cap/PWM) 2 - 16-bit (Int/Cap)	Programmable LVD Backup Mode	1.6V/3.6V 3mA/1mA/0.7uA	28SOP, 24SDIP, 24ELP, Pellet
S3F80P9	SAM8 RC	32	272+ 1KB Exec	22, 26	-	1 - 8-bit (Basic/WD) 1 - 8-bit (Carrier) 1 - 8-bit (Int/Cap/PWM) 2 - 16-bit (Int/Cap)	Programmable LVD Backup Mode	1.6V/3.6V 3mA/1mA/0.7uA	28SOP, 32SOP, 44QFP, Pellet
S3F80PB	SAM8 RC	63	272+ 1KB Exec	38/26	-	1 - 8-bit (Basic/WD) 1 - 8-bit (Carrier) 1 - 8-bit (Int/Cap/PWM) 2 - 16-bit (Int/Cap)	Programmable LVD Backup Mode	1.6V/3.6V 3mA/1mA/0.7uA	32SOP, 44QFP, 44ELP, Pellet
S3F80Q5	SAM8 RC	18	272+ 1KB Exec	19	1 - SPI	1 - 8-bit (Basic/WD) 1 - 8-bit (Carrier) 1 - 8-bit (Int/Cap/PWM) 2 - 16-bit (Int/Cap) 1 - 24-bit (Free Running)	Programmable LVD Backup Mode	1.6V/3.6V 1mA/250uA/0.3uA	24ELP, Pellet
S3F80QB	SAM8 RC	62/63	272+ 2KB/1KB Exec	38	1 - SPI	1 - 8-bit (Basic/WD) 1 - 8-bit (Carrier) 1 - 8-bit (Int/Cap/PWM) 2 - 16-bit (Int/Cap) 1 - 24-bit (Free Running)	Programmable LVD Backup Mode	1.6V/3.6V 1mA/250uA/0.3uA	44ELP, 44QFP, Pellet

Cost Efficient Applications

Part Number	MCU Core	Memory		GP I/O	Serial	Timers	Analog	LCD (Seg x Com, Duty)	Package
		Flash (KB)	Ram (Bytes)						
S3F94C4 S3F94C8	SAM88 RC RI	4 8	208	14, 18	-	1 - 8-bit (Basic/WD) 1 - 8-bit (Int) 1 - 14-bit (1ch PWM)	ADC - 10bit x 9ch	-	16SOP, 16TSSOP, 20DIP, 20SOP, 20SSOP
S3F8S24 S3F8S28	SAM88 RC	4 8	272	18, 22	1 - UART 1 - I2C	1 - 8-bit (Basic/WD) 1 - 16-bit (Int) 1 - 16-bit (Int/Cap) 1 - 14-bit (2ch PWM)	ADC - 12bit x 13ch	-	20DIP, 20SOP, 20SSOP, 24SOP, 24SSOP
S3F84B8	SAM88 RC	8	272	18	-	1 - 8-bit (Basic/WD) 1 - 8-bit (Int/Cap/PWM) 1 - 16-bit (Int/Event/PWM) 1 - Watch/Buzzer	ADC - 10bit x 8ch 4 - Comparator 1 - Op Amp	-	20DIP, 20SOP
S3F8S35 S3F8S39	SAM88 RC	16 32	1,040	26	2 - UART 1 - I2C 1 - SPI	1 - 8-bit (Basic/WD) 1 - 8-bit (Int/Cap/PWM) 1 - 16-bit (Int/PWM) 2 - 16-bit (Int/Cap/PWM) 1 - 16-bit (Pulse) 1 - Wake up timer 1 - Watch/Buzzer	ADC - 10bit x 16ch	-	32SOP, 32SDIP, 32ELP
S3F8S15 S3F8S19	SAM88 RC	16 32	2,086	40	2 - UART 1 - I2C 1 - SPI	1 - 8-bit (Int/Cap/PWM) 1 - 16-bit (Int/PWM) 2 - 16-bit (Int/Cap/PWM)	ADC - 10bit x 10ch	16x8 1/2, 1/3, 1/4, 1/8	48QFP
S3F8S45	SAM88 RC	16	528	38	2 - UART 1 - SIO	1 - 8-bit (Basic/WD) 1 - 8-bit (Event/PWM/Cap) 1 - 8-bit (Carrier) 1 - 8-bit (PWM) 2 - 16-bit (Event/PWM/Cap) 1 - Watch/Buzzer 1 - Pattern Generator	ADC - 10bit x 9ch	22/8 1/2, 1/3, 1/4, 1/8	32SDIP, 42DIP, 44QFP

High Performance Applications

Part Number	MCU Core	Flash (KB)	Ram (Bytes)	GP I/O	Serial	Timers	Analog	LCD (Seg x Com, Duty)	Package
S3F8S5A	SAM88 RC	48	1,062	36	2 - UART 1 SIO	1 - 8bit (Basic/WD) 1 - 8-bit (Event/PWM/Cap) 1 - 8-bit (Carrier) 1 - 8-bit (PWM) 2 - 16-bit (Event/PWM/Cap) 1 - 10-bit (PWM) 1 - Watch/Buzzer 1 - Pattern Generator	ADC - 10bit x 8ch	16/8 1/2, 1/3, 1/4, 1/8	40QFP, 42SDIP
S3F8S6B	SAM88 RC	64	2,098	54	2 - UART 1 SIO	1 - 8bit (Basic/WD) 1 - 8-bit (Event/PWM/Cap) 1 - 8-bit (Carrier) 1 - 8-bit (PWM) 2 - 16-bit (Event/PWM/Cap) 1 - Watch/Buzzer 1 - Pattern Generator	ADC - 10bit x 8ch	28/8 1/2, 1/3, 1/4, 1/8	64QFP, 64LQFP, 64SDIP
S3F8S7B	SAM88 RC	64	2,114	70	2 - UART 1 SIO	1 - 8bit (Basic/WD) 1 - 8-bit (Event/PWM/Cap) 1 - 8-bit (Carrier) 1 - 8-bit (PWM) 2 - 16-bit (Event/PWM/Cap) 1 - Watch/Buzzer 1 - Pattern Generator	ADC - 10bit x 8ch DAC - 8bit 1ch	44/8 1/2, 1/3, 1/4, 1/8	80QFP, 80TQFP
S3F8S8B	SAM88 RC	64	2,134	90	2 - UART 1 SIO	1 - 8bit (Basic/WD) 1 - 8-bit (Event/PWM/Cap) 1 - 8-bit (Carrier) 1 - 8-bit (PWM) 2 - 16-bit (Event/PWM/Cap) 1 - Watch/Buzzer 1 - Pattern Generator	ADC - 10bit x 8ch DAC - 8bit 1ch Low Battery Detect	64/8 1/2, 1/3, 1/4, 1/8	100QFP, 100TQFP
S3F82NB	SAM88 RC	64	4,112	83	1 SIO	1 - 8bit (Basic/WD) 1 - 8-bit (Event/PWM/Cap) 1 - 16-bit (Int/Event/PWM) 1 - Watch/Buzzer	ADC - 10bit x 8ch 3 - Comparator	80/16 1/8, 1/16	128QFP

Zilog S3 Family Part Number by Package Type



Remote Control

Master	Part Number	Package Type
S3F80P5	S3F80P5XZZ-LM85	24ELP
	S3F80P5XZZ-SM95	24SOP
	S3F80P5XZZ-SN95	28SOP
	S3F80P5XZZ-C0C5	Pellet
S3F80P9	S3F80P9XZZ-QZ89	44QFP
	S3F80P9XZZ-S099	32SOP
	S3F80P9XZZ-SN99	28SOP
	S3F80P9XZZ-C0C9	Pellet
S3F80PB	S3F80PBXZZ-QZ8B	44QFP
	S3F80PBXZZ-LZ8B	44ELP
	S3F80PBXZZ-S09B	32SOP
	S3F80PBXZZ-C0CB	Pellet
S3F80Q5	S3F80Q5XZZ-LM85	24ELP
	S3F80Q5XZZ-C0C5	Pellet
S3F80QB	S3F80QBXZZ-LZ8B	44ELP
	S3F80QBXZZ-QZ8B	44QFP
	S3F80QBXZZ-C0CB	Pellet

High performance Applications

Master	Part Number	Package Type
S3F8S5A	S3F8S5AXZZ-QZ8A	44QFP
	S3F8S5AXZZ-AQ9A	42SDIP
S3F8S6B	S3F8S6BXZZ-QT8B	64QFP
	S3F8S6BXZZ-AT9B	64SDIP
	S3F8S6BXZZ-C0CB	Pellet
S3F8S7B	S3F8S7BXZZ-QW8B	80QFP
	S3F8S7BXZZ-TW8B	80TQFP
	S3F8S7BXZZ-C0CB	Pellet
S3F8S8B	S3F8S8BXZZ-QX8B	100QFP
	S3F8S8BXZZ-TX8B	100TQFP
	S3F8S8BXZZ-C0CB	Pellet
S3F82NB	S3F82NBXZZ-QA8B	128QFP
	S3F82NBXZZ-C0CB	Pellet

Cost Efficient Applications

Master	Part Number	Package Type
S3F8S35XZZ	S3F8S35XZZ-SO95	32SOP
	S3F8S35XZZ-AO95	32DIP
	S3F8S35XZZ-LO85	32ELP
	S3F8S35XZZ-C0C5	Pellet
S3F8S39	S3F8S39XZZ-SO99	32SOP
	S3F8S39XZZ-AO99	32SDIP
	S3F8S39XZZ-LO89	32ELP
	S3F8S39XZZ-C0C8	Pellet
S3F8S15	S3F8S15XZZ-QR85	48QFP
	S3F8S15XZZ-C0C5	Pellet
S3F8S19	S3F8S19XZZ-QR89	48QFP
	S3F8S19XZZ-C0C9	Pellet
S3F8S45	S3F8S45XZZ-QZ85	44QFP
	S3F8S45XZZ-AQ95	42SDIP
	S3F8S45XZZ-AO95	32SDIP
	S3F8S45XZZ-C0C5	Pellet

Master	Part Number	Package Type
S3F94C4	S3F94C4XZZ-DK94	20DIP
	S3F94C4XZZ-SK94	20SOP
	S3F94C4XZZ-VK94	20SSOP(tube)
	S3F94C4XZZ-VK74	20SSOP(Tape & Reel)
	S3F94C4XZZ-C0C4	Pellet
	S3F94C4XZZ-W0W4	Die
S3F94C8	S3F94C8XZZ-DK98	20DIP
	S3F94C8XZZ-SK98	20SOP
	S3F94C8XZZ-VK98	20SSOP(tube)
	S3F94C8XZZ-VK78	20SSOP(Tape & Reel)
S3F84B8	S3F94C8XZZ-C0C8	Pellet
	S3F84B8XZZ-DK98	20DIP
S3F8S24	S3F8S24XZZ-SM94	24SOP
	S3F8S24XZZ-DK94	20DIP
	S3F8S24XZZ-SK94	20SOP
	S3F8S24XZZ-VK94	22SS07
S3F8S28	S3F8S28XZZ-SM98	24SOP
	S3F8S28XZZ-DK98	20DIP
	S3F8S28XZZ-SK98	20SOP
	S3F8S28XZZ-VK98	20SSOP
	S3F8S28XZZ-RM98	24TSSOP
	S3F8S28XZZ-C0C8	Pellet

S	3	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, 2 - Major Designator

S3: Zilog, S3 Family Microcontroller

3 - Memory Type

E: EVA Chip F: Flash

4 - Core

8: SAM88 RC 9: SAM88 RCRI

5, 6- Application Category

0n: General Purpose

2n: LCD

4n: General A/D

6n: PC & Peripheral

8n: Video

An: General Purpose

Fn: Telecom

Rn Rf tech embedded MCU

1n: Voice

3n: Audio

5n: Telecom

7n: VFD

9n: Spical (IC Card)

Cn: C

Mn: Modem

Zn: Assignment

7 - Program Memory

0: 0KB

1: 1KB

2: 2KB

3: 12KB

4: 4KB

5: 16KB

6: 6KB

7: 24KB

8: 8KB

9: 32KB

A: 0KB

B: 64KB

8- Version (A to Z)

X: First version

9, 10 - Mask Option

11 - '\'

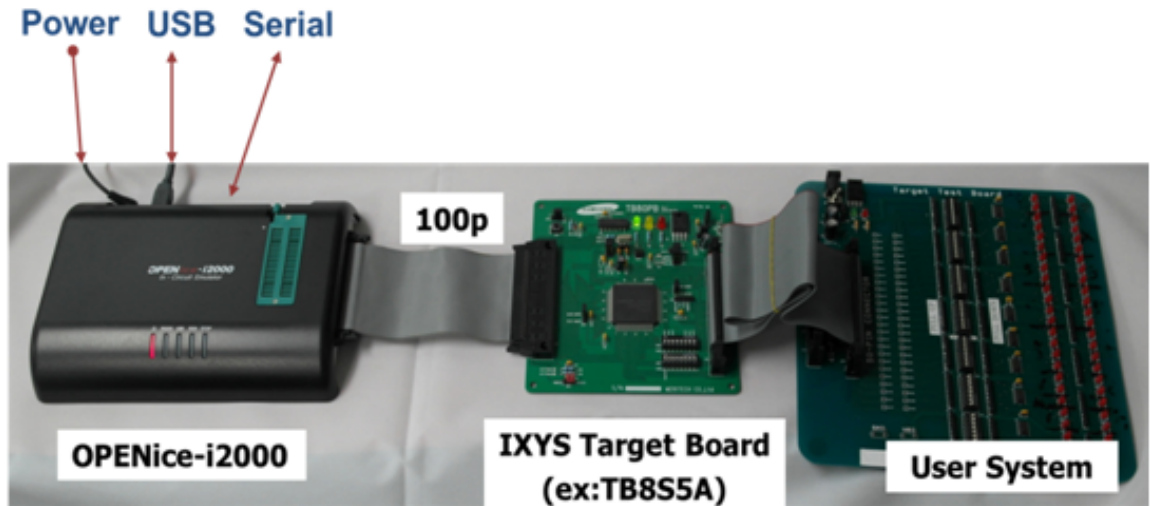
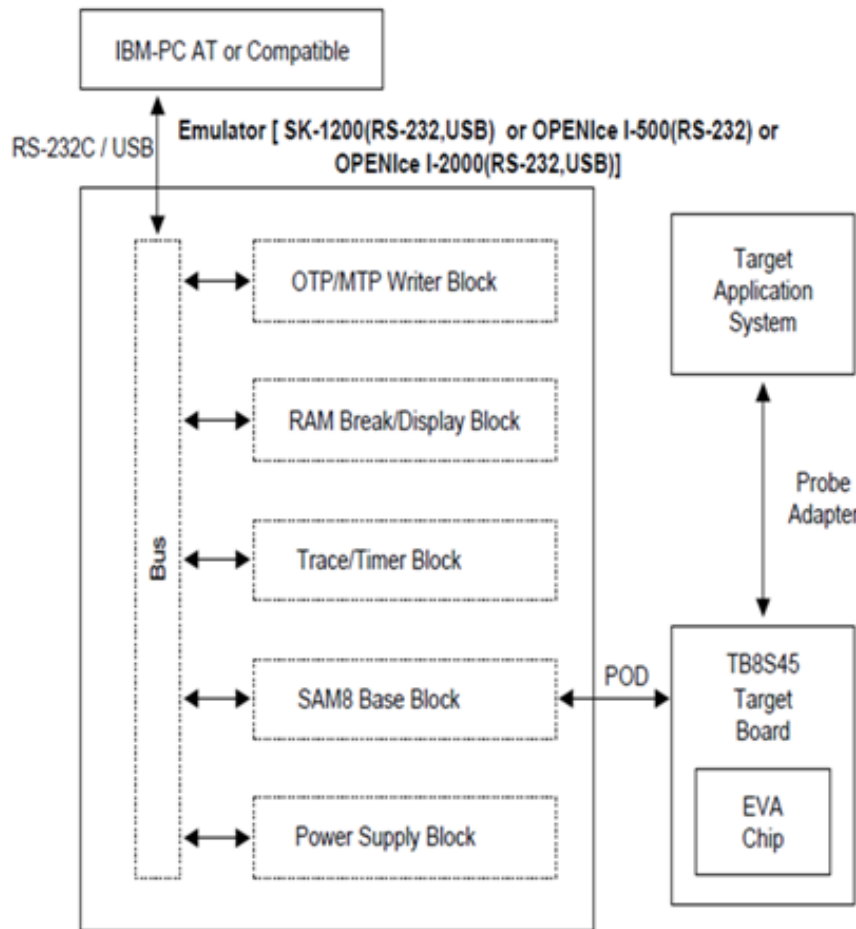
12 - Package Type

13 - Package TPins

14 - Package

15 - ROM Size

S3 Family Development Tools



Tool Suppliers



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GW-uni 2

Gang programmer (IXYS OTP/MTP/Flash MCU)



- 8-socket gang programmer for all IXYS MCU.
- Fast programming speed :OTP: 2Kbps / MTP(FLASH): 10Kbps
- Buffer memory (Download): 100Mbyte
- PC based operating and Stand-alone
- Simple & User friendly GUI
- Simple setting : by selection of MCU product name
- Touch sensor keys (Long life)
- Free support of new device upgrade
- Socket adapter support (separate sales)

IL-pro2

In-line programmer (IXYS OTP/MTP/Flash MCU)



- In-line programmer operating with board tester
 - In-system programming with Board Tester machine.
 - Provide API(VC++) to combine of the system software of Board Tester
- Maximum 8 units can be controlled by 1PC
- 4m-length of cable(connection cable between IL-pro2 and MCU on PCB)
- Programming speed(with verify function)
 - Data size: 16Kbyte → 2sec, 32Kbyte → 4sec
 - Data size: 64Kbyte → 6sec , 128Kbyte → 12sec

AS-pro2

ISP (In-System Programmer) Tool



- In-System programming (IXYS OTP/MTP/FLASH MCU)
- Portable & without PC (Stand-alone)
- Buffer memory 128M Byte programming code
- Useful for firmware upgrade in the field (A/S)

AS-uni

ISP (In-System Programmer) Tool



- In-System programming
 - IXYS OTP/MTP/FLASH MCU
 - Fujitsu, ABOV Cortex-M
- Portable & without PC (Stand-alone)
- Buffer memory 128M Byte programming code
- Useful for firmware upgrade in the field (A/S)
- Development plan
 - RENESAS(NEC), TI, etc..

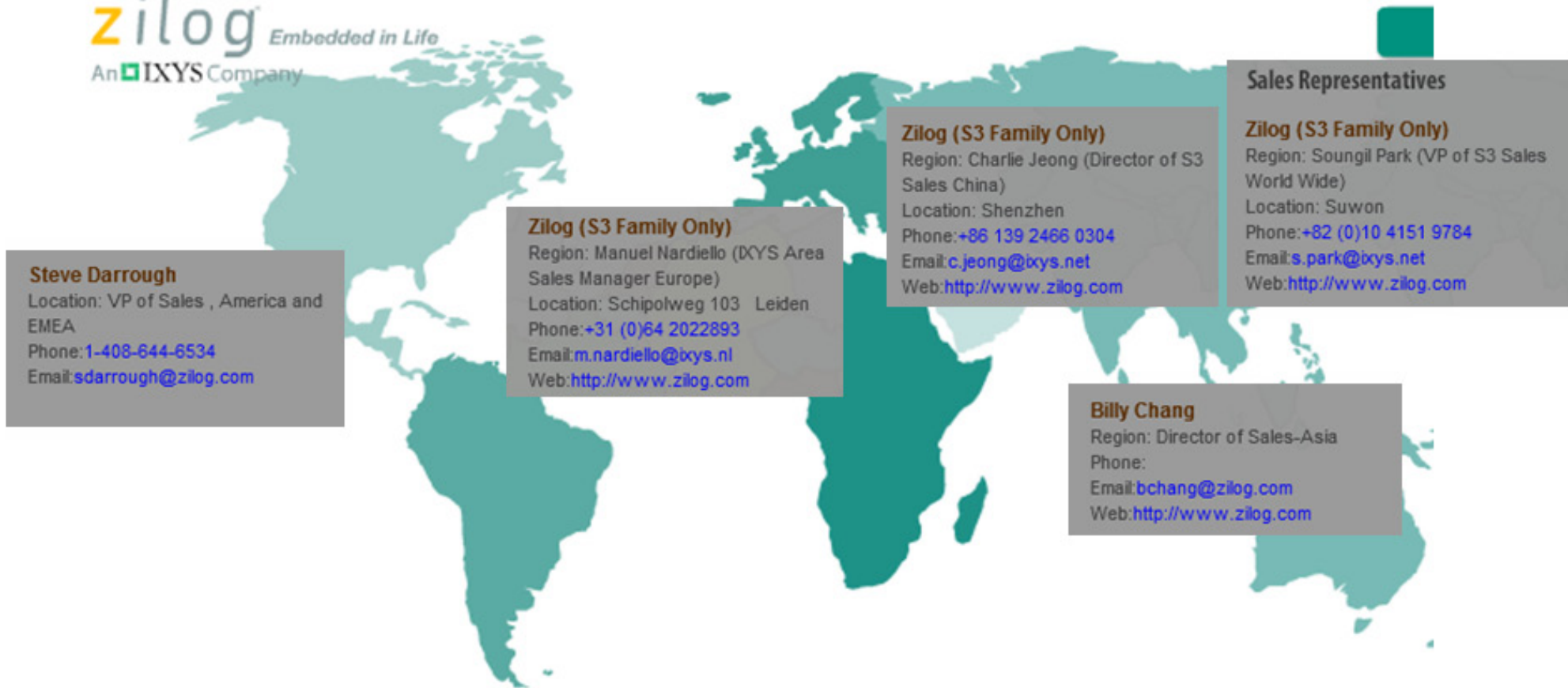
S3 Family Alternative Solutions for EOL Parts



Program Memory (KB)	Package Pins	16	20	24	28	32	40	42	44	48	64	80	100	128
		64						S3F80PB		S3F80QB*	S3F80PB		S3F8S6B*	S3F8S7B*
48						S3F84A5 S3F84H5 S3F84Q5 S3F84T5 S3F94A5		S3F8S5A*	S3F8S5A*		S3F84VB S3P848A S3F84NB S3F8235 S3F8275 S3F8274 S3F8278	S3F84YB S3F828B S3F8289 S3F8285 S3F84MB S3F8249 S3F8245 S3F825A S3F82I9	S3F84ZB S3F82HB	
32						S3F80P9	S3F8S39 S3F80P9	S3F84I9 S3F84UA S3P84E9 S3F94A5		S3F80P9	S3F8S19			
16				S3F80P5 S3F80Q5*		S3F8S35 S3F8S45*		S3F8S45*	S3F8S45*		S3F8S15			
8		S3F94C8	S3F84B8 S3F8S28 S3F94C8	S3F8S28				S3F84U8 S3F9488 S3P84I8 S3F9228						
4		S3F94C4	S3F8S24 S3F94C4	S3F8S24										
* New Products (Available Now)		16	20	24	28	32	40	42	44	48	64	80	100	128

S3F80QB*

Worldwide Contact Information



- North America
- South America
- Africa
- Europe
- Asia
- Middle East

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