SinOne MCU platform

Product Selection Guide

☑ **Product platform**
Full Product Range

☑ **Development platform**
Easy Development

☑ **Service platform**
Fast service

ShenZhen SinOne Microelectronics Co.,Ltd.

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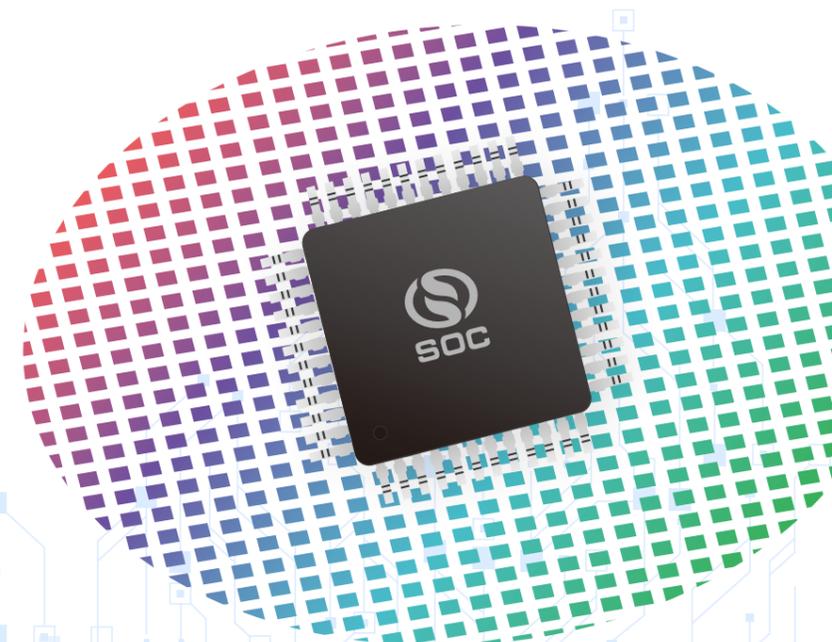Phone number: 0755-26652552　26652556　26656912

Website：www.socmcu.com

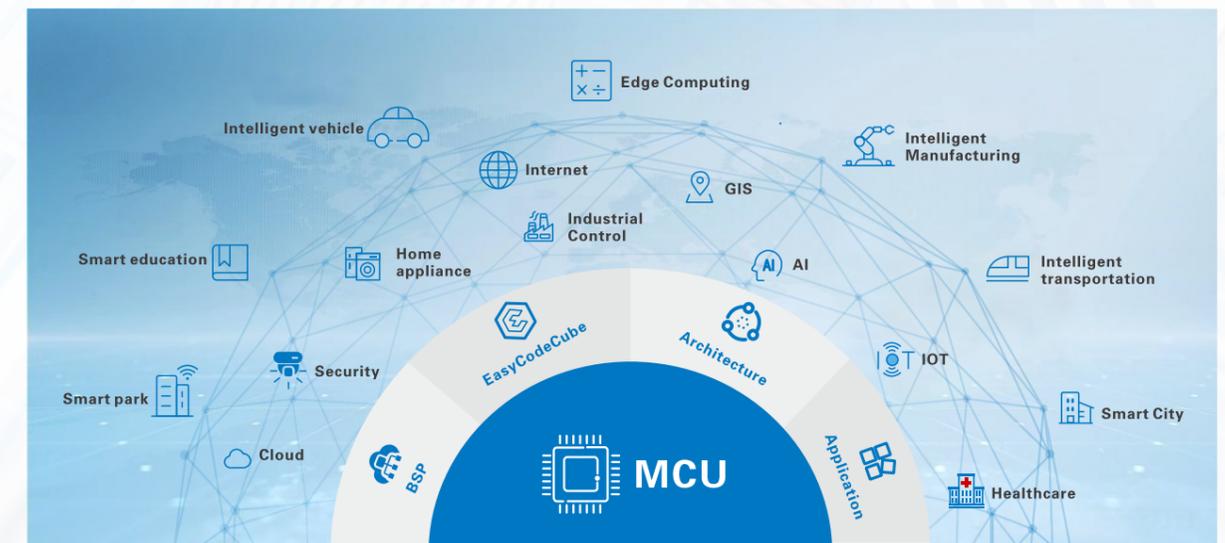WeChat Official Account　　Bilibili　　Douyin

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About SinOne

SinOne is an integrated circuit supplier that is market-driven and innovative. Guided by the core values of "teamwork, technological innovation, integrity, and mutual success," we provide competitive MCU platforms for electronic product developers. We are committed to infusing technology with the soul of everything, enriching lives.

Over 30 years of industry experience

High Performance

High Quality

Customer Base

Ecological Services

SinOne collaborates with multiple partners to provide MCU solutions covering various industries. Our MCU products offer high performance and reliable solutions to meet the diverse needs of different sectors.

Edge Computing
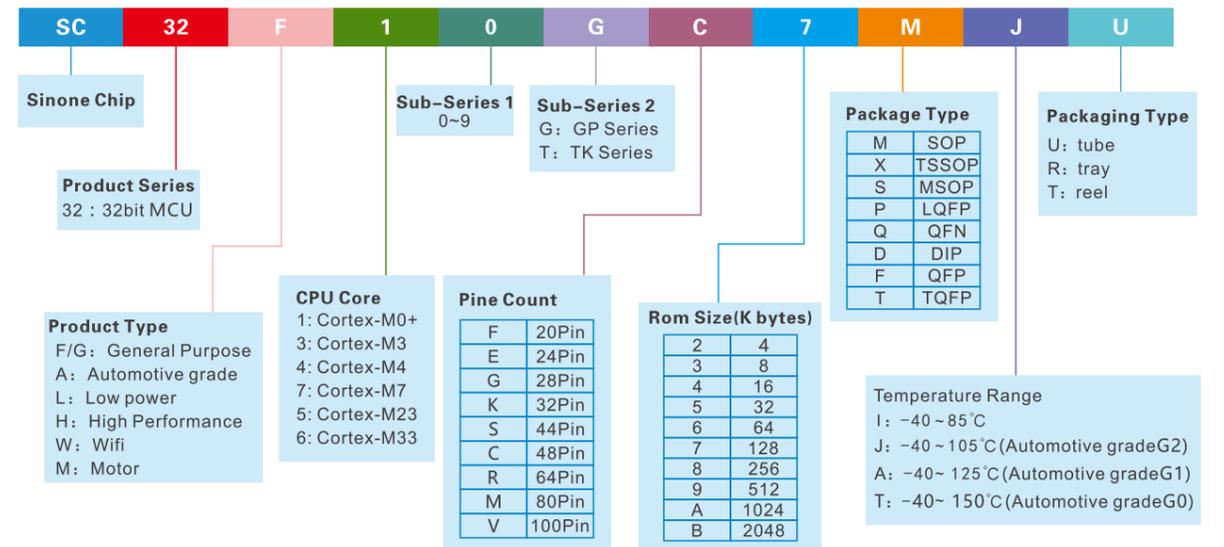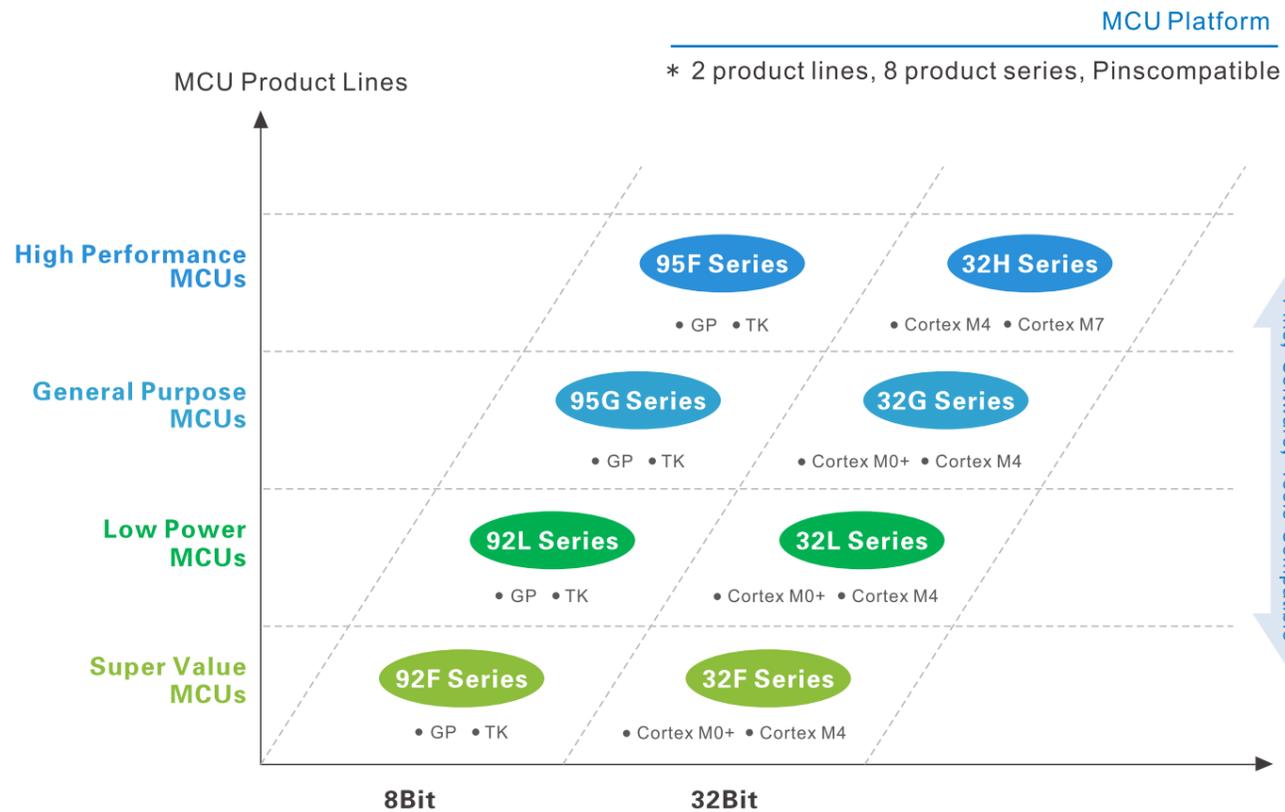Intelligent vehicle
Intelligent Manufacturing
Internet
GIS
Industrial Control
Smart education
Home appliance
AI
Intelligent transportation
EasyCodeCube
Architecture
IOT
Security
Smart park
MCU
Smart City
Cloud
BSP
Application
Healthcare

Ecological System

Product Platform

8bit/32bit MCU

Super Value
92F 32F

Low Power
92L 32L

General Purpose
95G 32G

Abundant Resources
95F 32H

Special Application MCU

| Proximity Sensing | Non-contact Water Level Detection |
| Motor Drive | CAN FD |

Development Platform

Software Development Tools

EasyCodeCube | KEIL Tools by ARM

Evaluation Board

Programming Tools

Service Platform

Online Service Platform

Intelligent Technology Service Platform QQ: 800 183 482

TAOBAO (socmcu.taobao.com)

WeChat Official Account

Bilibili

Douyin

Product Lines

MCU Product Lines

MCU Platform

＊ 2 product lines, 8 product series, Pinscompatible

Pins、Software、Tools Compatible

High Performance MCUs
- 95F Series — • GP • TK
- 32H Series — • Cortex M4 • Cortex M7

General Purpose MCUs
- 95G Series — • GP • TK
- 32G Series — • Cortex M0+ • Cortex M4

Low Power MCUs
- 92L Series — • GP • TK
- 32L Series — • Cortex M0+ • Cortex M4

Super Value MCUs
- 92F Series — • GP • TK
- 32F Series — • Cortex M0+ • Cortex M4

8Bit   32Bit

SinOne 8-bit MCU product naming rules

SC 92 F 8 4 4 6 B P 44 R

Sinone Chip

Product Series
92：Super Value
95：High Performance

Product Type
F：FLASH MCU
L：LOW POWER FLASH MCU

Series
5: GP Series
6: TK Series
7: GP Series
8: TK Series

Rom Size(K bytes)

2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512

Sub-Series
0~9.A~Z

引脚数量

0	8Pin
1	16Pin
2	20Pin
3	28Pin
5	32Pin
6	44Pin
7	48Pin
8	64Pin
9	100Pin/24Pin

Version

B
C
D

封装形式

M	SOP
X	TSSOP
S	MSOP/SSOP
P	LQFP
Q	QFN
D	DIP
F	QFP
K	SKDIP

Pin Count

08
10
16
20
28
32
44
48
64

Packaging Type
U：tube
R：tray
T：reel

SinOne 32-bit MCU product naming rules

SC 32 F 1 0 G C 7 M J U

Sinone Chip

Product Series
32：32bit MCU

Product Type
F/G：General Purpose
A：Automotive grade
L：Low power
H：High Performance
W：Wifi
M：Motor

CPU Core
1: Cortex-M0+
3: Cortex-M3
4: Cortex-M4
7: Cortex-M7
5: Cortex-M23
6: Cortex-M33

Sub-Series 1
0~9

Sub-Series 2
G：GP Series
T：TK Series

Pine Count

F	20Pin
E	24Pin
G	28Pin
K	32Pin
S	44Pin
C	48Pin
R	64Pin
M	80Pin
V	100Pin

Rom Size(K bytes)

2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
A	1024
B	2048

Package Type

M	SOP
X	TSSOP
S	MSOP
P	LQFP
Q	QFN
D	DIP
F	QFP
T	TQFP

Temperature Range
I：−40～85℃
J：−40～105℃(Automotive gradeG2)
A：−40～125℃(Automotive gradeG1)
T：−40～150℃(Automotive gradeG0)

Packaging Type
U：tube
R：tray
T：reel

Application

White Goods	Kitchen Appliances	Industrial Control Vehicle	Security	IoT
Smart Home	Intelligent Healthcare	Smart City	New Energy	Consumer Electronics

Products platform

32bit ARM Series
Compliant with white goods anti-interference requirements

SC32F General-Purpose MCU

> Product Highlights

1. **M0+ core:** frequency up to 64MHz , maximum package of 64PIN, one power.

2. **Large resources:** 128-512K FLASH, 8-32K SRAM; 2.0V~5.5V operating voltage; -40℃~105℃ operating temperature.

3. **HIRC**：Built-in 1% accuracy 32/64/72MHz high-frequency oscillator, can serve as the system clock, and can be used as PLL clock source (SC32F10 series).

4. **External Crystal Oscillator:** Can simultaneously connect high-frequency crystal (2~16MHz) and low-crystal (32.768KHz).

5. **PLL**：up to 64MHz, can set as the advanced PWM0 clock source (SC32F10 series).

6. **DMA**：2-4 independently configurable channels, up to 24 DMA request sources, 4 request priority levels.

7. **ADC**：14-bit, 13-18 channels, built-in reference voltage: 1.024V/2.048V/2.4V.

8. **DAC**：10-bit, 2 channels, built-in reference voltage: 1.024V / 2.048V / 2.4V (SC32F15G series).

9. **PWM (with dead-time insertion)**：16-bit (8ch), 8-bit (32ch), can be multiplied up to 64MHz.

10. **LCD/LED driver**：8*24/6*26/5*27/4*28, LCD supports A/B phase driving, with a maximum frame frequency of 256Hz.

11. **Comparator:** 4 input channels, 16-level selectable comparison voltage.

12. **Extensive Interface Options:** 1x CAN (SC32F11 series, SC32F15 series)，2x QSPI (SC32F11 series)，Up to 3x OP,Up to 6x UART + 4x SPI + 2x IIC,Temperature Sensor,2x QEP (SC32F15 series)

13. **Enhanced Security:** 96-bit UID, UserID, CRC verification module, RAM parity check.

14. **Next-Generation High-Performance Touch Control:**

1. Supports up to 39 high-sensitivity touch keys, compatible with both self-capacitance and mutual-capacitance modes, Over-air gap Touch, wheel/slider, proximity sensing, matrix keys, and water level detection.

2. High Signal-to-Noise Ratio (SNR > 100), High Resolution, capable of detecting capacitance changes less than 0.1pF.

3. Adaptive touch sensitivity performance: across various panel thicknesses, temperatures, and humidity levels.

4. Low power consumption, high immunity to interference: EFT 4KV, ESD 8KV, 10V Dynamic CS.

5. Exceptional waterproof capability, resistant to faucet and shower sprays.

15. **Proximity Sensing**

1. Detection distance of 15cm, 2D/3D sensing capability.

2. Strong anti-interference and excellent small signal processing capabilities.

3. Channel parallel connection, Low cost, capable of implementing proximity sensing solutions.

Application Areas: Automotive, White Goods, Industrial Control, Energy Storage, Motor Control, IoT, Smart Healthcare, Smart Cities, Security, Consumer Electronics, etc.

> 32F Series Roadmap

SC32F GP MCUs

ROM/RAM Size

ROM/RAM Size	SOP28 TSSOP28 QFN28	QFN32 (5*5mm) LQFP32 (7*7mm)	LQFP44 (10*10mm)	QFN48 (5*5mm) LQFP48 (7*7mm)	LQFP64 (10*10mm)
512K/16K		32F12GK9	32F12GS9	32F12GC9	
256K/32K		32F11GK8	32F11GS8	32F11GC8	32F11GR8
256K/16K		32F12GK8	32F12GS8	32F12GC8	
256K/8K	32F10GG8	32F10GK8	32F10GS8	32F10GC8	
128K/32K		32F11GK7	32F11GS7	32F11GC7	32F11GR7
128K/16K	32F12GG7	32F12GK7	32F12GS7	32F12GC7	
128K/8K	32F15GG7	32F15GK7		32F15GC7	
128K/8K	32F10GG7	32F10GK7	32F10GS7	32F10GC7	
64K/8K	32F15GG6	32F15GK6		32F15GC6	

Pin Count

SC32F TK MCUs

ROM/RAM Size

ROM/RAM Size	SOP28 TSSOP28 QFN28	QFN32 (5*5mm) LQFP32 (5*5mm)	LQFP44 (10*10mm)	QFN48 (7*7mm) LQFP48 (7*7mm)	LQFP64 (10*10mm)
512K/16K		32F12TK9	32F12TS9	32F12TC9	
256K/32K		32F11TK8	32F11TS8	32F11TC8	32F11TR8
256K/16K		32F12TK8	32F12TS8	32F12TC8	
256K/8K	32F10TG8	32F10TK8	32F10TS8	32F10TC8	
128K/32K		32F11TK7	32F11TS7	32F11TC7	32F11TR7
128K/16K	32F12TG7	32F12TK7	32F12TS7	32F12TC7	
128K/8K	32F10TG7	32F10TK7	32F10TS7	32F10TC7	

Pin Count

SinOne SC32F GP MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	Voltage(V)	Frequency(MHZ)	1%IRC(MHZ) 32K automatic calibration	Timer(16-bit)	UART	QSPI	SPI	IIC	CAN FD	LIN	ADC (14-bit)	ADC (12-bit)	DAC(10-bit)	PWM(16-bit+8-bit) (Complementary with dead zone)	RTC	LCD/LED Driver	EXT Crystal	PGA/OP	CMP
10G Series	SOP/TSSOP28	SC32F10GG7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	7	-	-	5+18	-	4*18	✓	0	1
	LQFP/QFN32	SC32F10GK7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	9	-	-	5+20	-	4*20	✓	0	3
	LQFP44	SC32F10GS7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	-	8+29	-	7*22/6*23/5*24/4*25	✓	0	4
	LQFP/QFN48	SC32F10GC7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	0	4
	SOP/TSSOP28	SC32F10GG8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	7	-	-	5+18	-	4*18	✓	0	1
	LQFP/QFN32	SC32F10GK8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	9	-	-	5+20	-	4*20	✓	0	3
	LQFP44	SC32F10GS8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	-	8+29	-	7*22/6*23/5*24/4*25	✓	0	4
	LQFP/QFN48	SC32F10GC8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	0	4
11G Series (coming soon)	LQFP/QFN32	SC32F11GK7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	8	-	-	5+20	-	4*16	✓	2	3
	LQFP44	SC32F11GS7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	12	-	-	8+29	-	7*22/6*23/5*24/4*25	✓	2	4
	LQFP/QFN48	SC32F11GC7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	14	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP64	SC32F11GR7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	18	-	-	8+39	-	8*31/6*33/5*34/4*35	✓	2	4
	LQFP/QFN32	SC32F11GK8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	8	-	-	5+20	-	4*16	✓	2	3
	LQFP44	SC32F11GS8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	12	-	-	8+29	-	7*22/6*23/5*24/4*25	✓	2	4
	LQFP/QFN48	SC32F11GC8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	14	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP64	SC32F11GR8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	18	-	-	8+39	-	8*31/6*33/5*34/4*35	✓	2	3
12G Series	SOP/TSSOP28	SC32F12GG7	128	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	-	4+20	-	4*16	✓	2	4
	LQFP/QFN32	SC32F12GK7	128	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	-	8+20	-	4*16	✓	2	4
	LQFP44	SC32F12GS7	128	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN48	SC32F12GC7	128	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN32	SC32F12GK8	256	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	-	8+20	-	4*16	✓	2	4
	LQFP44	SC32F12GS8	256	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN48	SC32F12GC8	256	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN32	SC32F12GK9	512	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	-	8+20	-	4*16	✓	2	4
	LQFP44	SC32F12GS9	512	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN48	SC32F12GC9	512	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	-	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
15G Series	TSSOP28	SC32F15GG6	64	8	2.0~5.5	72	72	4	3	-	2	2	-	-	13	1	8	-	-	-	✓	2	3
	LQFP/QFN32	SC32F15GK6	64	8	2.0~5.5	72	72	4	3	-	2	2	1	1	15	1	8	-	-	-	✓	2	3
	LQFP/QFN48	SC32F15GC6	64	8	2.0~5.5	72	72	4	3	-	2	2	1	1	18	1	8	-	-	-	✓	3	4
	TSSOP28	SC32F15GG7	128	8	2.0~5.5	72	72	4	3	-	2	2	-	-	13	1	8	-	-	-	✓	2	3
	LQFP/QFN32	SC32F15GK7	128	8	2.0~5.5	72	72	4	3	-	2	2	1	1	15	1	8	-	-	-	✓	2	3
	LQFP/QFN48	SC32F15GC7	128	8	2.0~5.5	72	72	4	3	-	2	2	1	1	18	1	8	-	-	-	✓	3	4

SinOne SC32F TK MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	Voltage(V)	Frequency(MHZ)	1%IRC(MHZ) 32K automatic calibration	Timer(16-bit)	UART	QSPI	SPI	IIC	CAN FD	LIN	ADC (14-bit)	DAC(10-bit)	Touch Key(Channels)	PWM(16-bit+8-bit) (Complementary with dead zone)	RTC	LCD/LED Driver	EXT Crystal	PGA/OP	CMP
10T Series	SOP/TSSOP28	SC32F10TG7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	7	-	18	5+18	-	4*18	✓	0	1
	LQFP/QFN32	SC32F10TK7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	9	-	22	5+20	-	4*20	✓	0	3
	LQFP44	SC32F10TS7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	29	8+29	-	7*22/6*23/5*24/4*25	✓	0	4
	LQFP/QFN48	SC32F10TC7	128	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	32	8+32	-	8*24/6*26/5*27/4*28	✓	0	4
	SOP/TSSOP28	SC32F10TG8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	7	-	18	5+18	-	4*18	✓	0	1
	LQFP/QFN32	SC32F10TK8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	9	-	22	5+20	-	4*20	✓	0	3
	LQFP44	SC32F10TS8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	29	8+29	-	7*22/6*23/5*24/4*25	✓	0	4
	LQFP/QFN48	SC32F10TC8	256	8	2.0~5.5	64	32	8	4	-	2	2	-	-	13	-	32	8+32	-	8*24/6*26/5*27/4*28	✓	0	4
11T Series (coming soon)	LQFP/QFN32	SC32F11TK7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	8	-	22	5+20	-	4*16	✓	2	3
	LQFP44	SC32F11TS7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	12	-	29	8+29	-	7*22/6*23/5*24/4*25	✓	2	4
	LQFP/QFN48	SC32F11TC7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	14	-	32	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP64	SC32F11TR7	128	32	1.8~5.5	64	64	8	6	2	4	2	1	1	18	-	32	8+39	-	8*31/6*33/5*34/4*35	✓	2	4
	LQFP/QFN32	SC32F11TK8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	8	-	22	5+20	-	4*16	✓	2	3
	LQFP44	SC32F11TS8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	12	-	29	8+29	-	7*22/6*23/5*24/4*25	✓	2	4
	LQFP/QFN48	SC32F11TC8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	14	-	32	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP64	SC32F11TR8	256	32	1.8~5.5	64	64	8	6	2	4	2	1	1	18	-	32	8+39	-	8*31/6*33/5*34/4*35	✓	2	3
12T Series	SOP/TSSOP28	SC32F12TG7	128	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	19	4+20	-	4*16	✓	2	4
	LQFP/QFN32	SC32F12TK7	128	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	23	8+20	-	4*16	✓	2	4
	LQFP44	SC32F12TS7	128	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	35	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN48	SC32F12TC7	128	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	39	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN32	SC32F12TK8	256	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	23	8+20	-	4*16	✓	2	4
	LQFP44	SC32F12TS8	256	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	35	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN48	SC32F12TC8	256	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	39	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN32	SC32F12TK9	512	16	2.0~5.5	64	64	8	5	-	3	2	-	1	8	-	23	8+20	-	4*16	✓	2	4
	LQFP44	SC32F12TS9	512	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	35	8+32	-	8*24/6*26/5*27/4*28	✓	2	4
	LQFP/QFN48	SC32F12TC9	512	16	2.0~5.5	64	64	8	6	-	3	2	-	1	16	-	39	8+32	-	8*24/6*26/5*27/4*28	✓	2	4

> Product Highlights

1. Ultra–Low–Power Technology：
1) Wide Operating Voltage Range: 1.8 V ~5.5 V
2) Low-Power Counters & Timers: Two-channel counters; RTC (Real-Time Clock)
3) 8-Level Low-Voltage Detection (LVD/LPD) Module
4) STOP Mode Current: ≤ 1 μA
5) In STOP Mode: RTC operating current ≤ 1.5 μA; LCD operating current ≤ 1.5 μA

2. Enhanced Security： 96-bit UID and User ID,CRC checking module,RAM parity check,AES (Advanced Encryption Standard) support,TRNG (True Random Number Generator)

3. LCD Driver： LCD drive capability: 8*51/6*53/5*54/4*55,Supports A/B waveform driving Frame frequency up to 256 Hz

4. Rich Analog Peripherals： 23-channel, 14-bit ADC,4 input comparators (CMP) 1 operational amplifier (OPAMP), On-chip temperature sensor

5. Extensive Communication Interfaces： 2 combo interfaces (SPI & TWI/I²C), Up to 6 UARTs 1 LIN interface, ISO/IEC 7816 smart card interface
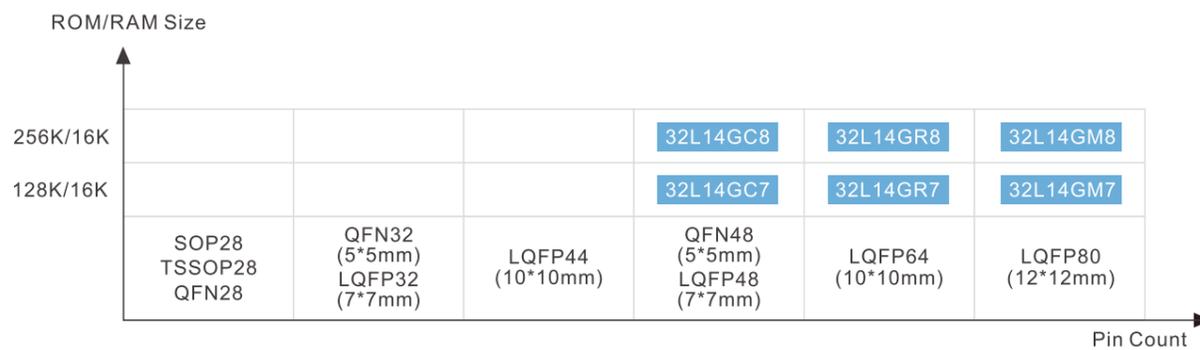
6. New–Generation High–Performance Touch Sensing:
1) Up to 32 high-sensitivity touch keys, with support for touchless sensing, slider/wheel, proximity sensing, matrix keys, and water-level detection
2) High SNR > 100 and high resolution, capable of detecting capacitance changes below 0.1 pF
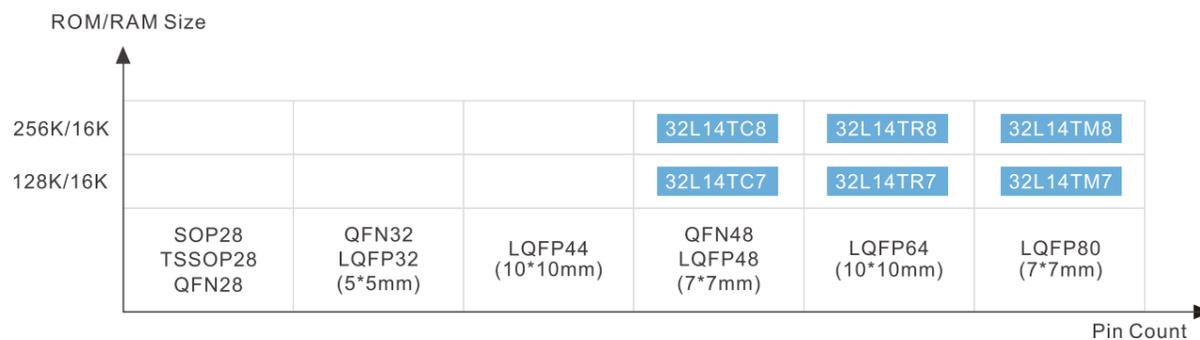3) Excellent water resistance, able to withstand water flow from faucets and showers

· **Application Areas：** White goods (home appliances), industrial control, energy storage, motor control,IoT, water & gas metering, wired controllers, smart healthcare, smart cities, security & surveillance, consumer electronics, and more.

> 32L Series Roadmap

32L Low–Power General–Purpose (GP) MCU Roadmap

ROM/RAM Size

256K/16K			32L14GC8	32L14GR8	32L14GM8
128K/16K			32L14GC7	32L14GR7	32L14GM7
SOP28 TSSOP28 QFN28	QFN32 (5*5mm) LQFP32 (7*7mm)	LQFP44 (10*10mm)	QFN48 (5*5mm) LQFP48 (7*7mm)	LQFP64 (10*10mm)	LQFP80 (12*12mm)

Pin Count

32L Low–Power Touch (TK) MCU Roadmap

ROM/RAM Size

256K/16K			32L14TC8	32L14TR8	32L14TM8
128K/16K			32L14TC7	32L14TR7	32L14TM7
SOP28 TSSOP28 QFN28	QFN32 LQFP32 (5*5mm)	LQFP44 (10*10mm)	QFN48 LQFP48 (7*7mm)	LQFP64 (10*10mm)	LQFP80 (7*7mm)

Pin Count

SinOne SC32L Low–Power Series GP MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(k Bytes)	Voltage(V)	Frequency(MHz) 1%IRC	Ipd(uA)	Ipd with RTC/LCD (uA)	LPD	LPC	Timer(16-bit)	UART	SPI	IIC	LIN	ADC(14-bit)	ADC(12-bit)	DAC(10-bit)	PWM(16-bit) (Complementary with dead zone)	RTC	Resistive and capacitive sensing / LCD Driver	EXT Crystal	PGA/OP	CMP	ISO/IEC 7816 smart card interface	Temperature sensor	AES	TRNG
14G Series	LQFP/QFN48	SC32L14GC7	128	16	1.8~5.5	48	0.7	1.5	✓	1	7	2	2	2	0	16	-	-	8	1	8*24/6*26 5*27/4*28	32K 2-16M	0	0	0	✓	1	1
	LQFP64	SC32L14GR7	128	16	1.8~5.5	48	0.7	1.5	✓	1	8	5	2	2	1	18	-	-	8	1	8*36/6*38 5*39/4*40	32K 2-16M	1	1	1	✓	1	1
	LQFP80	SC32L14GM7	128	16	1.8~5.5	48	0.7	1.5	✓	1	8	6	2	2	1	23	-	-	8	1	8*51/6*53 5*54/4*55	32K 2-16M	1	1	1	✓	1	1
	LQFP/QFN48	SC32L14GC8	256	16	1.8~5.5	48	0.7	1.5	✓	1	7	2	2	2	0	16	-	-	8	1	8*24/6*26 5*27/4*28	32K 2-16M	0	0	0	✓	1	1
	LQFP64	SC32L14GR8	256	16	1.8~5.5	48	0.7	1.5	✓	1	8	5	2	2	1	18	-	-	8	1	8*36/6*38 5*39/4*40	32K 2-16M	1	1	1	✓	1	1
	LQFP80	SC32L14GM8	256	16	1.8~5.5	48	0.7	1.5	✓	1	8	6	2	2	1	23	-	-	8	1	8*51/6*53 5*54/4*55	32K 2-16M	1	1	1	✓	1	1

SinOne SC32L Low–Power Series TK MCUs

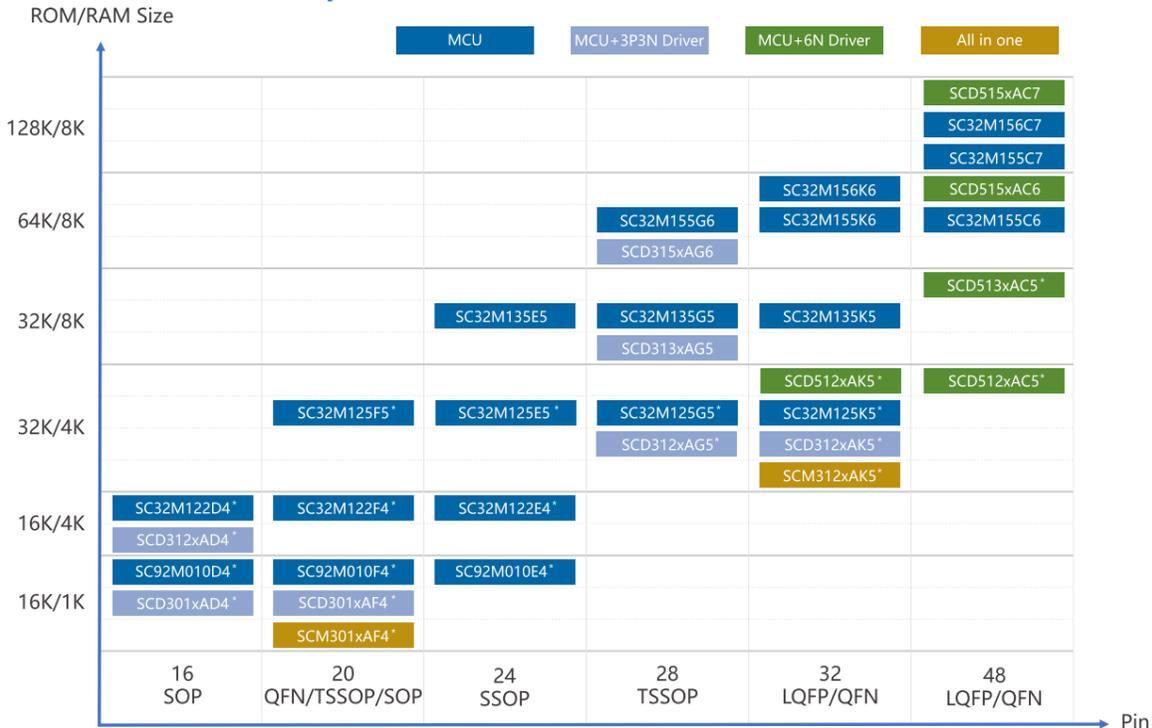| Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(k Bytes)	Voltage(V)	Frequency(MHz) 1%IRC	Ipd(uA)	Ipd with RTC/LCD (uA)	LPD	LPC	Timer(16-bit)	UART	SPI	IIC	LIN	TK	ADC(14-bit)	ADC(12-bit)	DAC(10-bit)	PWM(16-bit) (Complementary with dead zone)	RTC	Resistive and capacitive sensing / LCD Driver	EXT Crystal	PGA/OP	CMP	ISO/IEC 7816 smart card interface	Temperature sensor	AES	TRNG
14T Series	LQFP/QFN48	SC32L14TC7	128	16	1.8~5.5	48	0.7	1.5	✓	1	7	2	2	2	0	18	16	-	-	8	1	8*24/6*26 5*27/4*28	32K 2-16M	0	0	0	✓	1	1
	LQFP64	SC32L14TR7	128	16	1.8~5.5	48	0.7	1.5	✓	1	8	5	2	2	1	26	18	-	-	8	1	8*36/6*38 5*39/4*40	32K 2-16M	1	1	1	✓	1	1
	LQFP80	SC32L14TM7	128	16	1.8~5.5	48	0.7	1.5	✓	1	8	6	2	2	1	32	23	-	-	8	1	8*51/6*53 5*54/4*55	32K 2-16M	1	1	1	✓	1	1
	LQFP/QFN48	SC32L14TC8	256	16	1.8~5.5	48	0.7	1.5	✓	1	7	2	2	2	0	18	16	-	-	8	1	8*24/6*26 5*27/4*28	32K 2-16M	0	0	0	✓	1	1
	LQFP64	SC32L14TR8	256	16	1.8~5.5	48	0.7	1.5	✓	1	8	5	2	2	1	26	18	-	-	8	1	8*36/6*38 5*39/4*40	32K 2-16M	1	1	1	✓	1	1
	LQFP80	SC32L14TM8	256	16	1.8~5.5	48	0.7	1.5	✓	1	8	6	2	2	1	32	23	-	-	8	1	8*51/6*53 5*54/4*55	32K 2-16M	1	1	1	✓	1	1

Products platform

SC32M Motor Drive MCUs
Motor Drive Product Line

> Product Highlights

1. **Core:** Cortex-M0+, frequency up to 72MHz, MR math accrleration Uint, supports 9 types of mathematical operations.
2. **Abundant Resources:** 128K FLASH, 8K SRAM; 96-bit UID, User ID, hardware CRC.
3. 2.0-5.5V Operating Voltage; -40℃~105℃ Operating Temperature.
4. **High-speed ADC:** 2.5Msps 12-bit ADC, supports double sampling, supports multi-sequence mode.
5. 3 OPs, supports differential mode, OP1 and OP2 support comparator mode.
6. 4 CMPs, supports multiple voltage adjustments; built-in 10-bit DAC.
7. **EPWM,** up to 8-ch in four groups complementary output with dead-zone, adjustable output sequence, supports multi-level fault protection.
8. 24-bit PCAP timer, 16-bit QEP timer, and 4 general-purpose timers.
9. **Multiple Interfaces:** 1 CAN + 1 LIN + 3 UART + 2 SPI + 2 I2C.
10. **DMA：** 4 independently configurable channels.
11. **High Reliability:** EFT 4KV, ESD 6KV.

· **Development Ecosystem:** Hardware platform tailored for motor drive and MotoMatrix software ecosystem, providing a stable, user-friendly, and efficient development environment.
· **Application Areas:** White Goods, Home Appliances, Power Tools, Smart Home, Industrial Control, Personal Mobility, Smart Robotics, Automotive Electronics, etc.

> 32M Series Roadmap

ROM/RAM Size

	MCU	MCU+3P3N Driver	MCU+6N Driver	All in one
128K/8K				SCD515xAC7
			SC32M156C7	SCD515xAC6
			SC32M155C7	
64K/8K			SC32M156K6	SCD515xAC6
		SC32M155G6	SC32M155K6	SC32M155C6
		SCD315xAG6		
32K/8K				SCD513xAC5*
	SC32M135E5	SC32M135G5	SC32M135K5	
		SCD313xAG5		
32K/4K				SCD512xAC5*
	SC32M125F5*	SC32M125E5*	SC32M125G5*	SCD512xAK5*
		SCD312xAG5*	SC32M125K5*	
			SCD312xAK5*	
			SCM312xAK5*	
16K/4K	SC32M122D4*	SC32M122F4*	SC32M122E4*	
	SCD312xAD4*			
16K/1K	SC92M010D4*	SC92M010F4*	SC92M010E4*	
	SCD301xAD4*	SCD301xAF4*		
		SCM301xAF4*		
Pin	16 SOP	20 QFN/TSSOP/SOP	24 SSOP	28 TSSOP	32 LQFP/QFN	48 LQFP/QFN

*:coming soon

SinOne SC32M15xx Series —— High-Performance Motor Drive MCU

Collaborative Architecture

ARM Cortex-M0+	MR math acceleration unit	FOC Computational Performance ↑300%

72MHz main frequency, 9 math acceleration modules

8Kbytes SRAM	128Kbytes ROM	2Kbytes EEPROM

Interconnected Analog Peripherals

ADC 12bit 2.5Msps conversion rate Dual sampling, 18 channels	DAC 10bit
OP*3 (PGA)	CMP*4	VREF

SC32M15xx SCDx15xx SC32M135x SCDx13xx

- High computational power
- High balance
- High reliability

· High performance · Industrial-grade
· Abundant resources · Low power

TSSOP24 LQFP32 LQFP48
TSSOP28 QFN32 QFN48

Professional Digital Resources

EPWM 8-ch	Multi-level Hardware Protection / Grouping/Arranged Outputs	QEP*2 Three-Type Decoding Circuit
PCAP 24-bit	Three-Phase Detection Circuit / Multi-Stage Filtering Circuit	INDEX signal / Filter Circuit

Rich Digital Resources

Timer*4	DMA*4	IO*45	WDT*1	BTM*1
CAN*1	UART*3	SPI*2	IIC*2	LIN*1

Advanced Process Technology

2.0-5.5V Operating Voltage	-40~105℃ Operating Temperature	Class3A ESD	LEVEL4 EFT

SinOne SC32M15x Series High-Performance Motor Drive MCU

SC32M15X&SCDx15X series MCU

Series	PKG Type	P/N	Flash ROM (KBytes)	SRAM (KBytes)	Core	MR accelerator module	Frequency (MHz)	EPWM	Timer (16-bit)	Timer (24-bit)	QEP (16bit)	UART	SPI	IIC	CAN	ADC (12-bit)	DAC (10-bit)	Vref	OP	CMP	MCU working voltage	Built-in Driver	LDO
M156系列	LQFP32	SC32M156K6PJR	64	8	M0+	1	72	6	4	1	1	3	2	2	1	15	1	1	2	3	2.0~5.5	-	-
	QFN32(4*4)	SC32M156K6QJR	64	8	M0+	1	72	6	4	1	1	3	2	2	1	15	1	1	2	3	2.0~5.5	-	-
	LQFP48	SC32M156C7PJR	128	8	M0+	1	72	8	4	1	2	3	2	2	1	18	1	1	3	4	2.0~5.5	-	-
	QFN48(5*5)	SC32M156C7QJR	128	8	M0+	1	72	8	4	1	2	3	2	2	1	18	1	1	3	4	2.0~5.5	-	-
M155系列	TSSOP28	SC32M155G6XJU	64	8	M0+	1	72	6	4	1	-	3	2	2	-	13	1	1	2	3	2.0~5.5	-	-
	LQFP32	SC32M155K6PJR	64	8	M0+	1	72	6	4	1	1	3	2	2	-	15	1	1	2	3	2.0~5.5	-	-
	QFN32(4*4)	SC32M155K6QJR	64	8	M0+	1	72	6	4	1	1	3	2	2	-	15	1	1	2	3	2.0~5.5	-	-
	LQFP48	SC32M155C6PJR	64	8	M0+	1	72	8	4	1	1	3	2	2	-	18	1	1	3	4	2.0~5.5	-	-
	QFN48(5*5)	SC32M155C6QJR	64	8	M0+	1	72	8	4	1	1	3	2	2	-	18	1	1	3	4	2.0~5.5	-	-
	LQFP48	SC32M155C7PJR	128	8	M0+	1	72	8	4	1	1	3	2	2	-	18	1	1	3	4	2.0~5.5	-	-
	QFN48(5*5)	SC32M155C7QJR	128	8	M0+	1	72	8	4	1	1	3	2	2	-	18	1	1	3	4	2.0~5.5	-	-
SCDx15系列	eTSSOP28	SCD3151AG6XJU	64	8	M0+	1	72	6	4	1	-	3	2	2	-	11	1	1	2	3	2.0~5.5	3P3N	Y
	QFN48(5*5)	SCD5152AC6QJR	64	8	M0+	1	72	8	4	1	1	3	2	2	-	16	1	1	3	4	2.0~5.5	6N	
	QFN48(5*5)	SCD5152AC7QJR	128	8	M0+	1	72	8	4	1	2	3	2	2	1	16	1	1	3	4	2.0~5.5	6N	
	QFN48(7*7)	SCD5151AC6QJR	64	8	M0+	1	72	6	4	1	1	3	2	2	-	16	1	1	3	4	2.0~5.5	6N	
	QFN48(7*7)	SCD5151AC7QJR	128	8	M0+	1	72	6	4	1	2	3	2	2	1	16	1	1	3	4	2.0~5.5	6N	

SC32M135X&SCDx13X series MCU

Series	PKG Type	P/N	Flash ROM (KBytes)	SRAM (KBytes)	Core	MR accelerator module	Frequency (MHz)	EPWM	Timer (16-bit)	Timer (24-bit)	QEP (16bit)	UART	SPI	IIC	CAN	ADC (12-bit)	DAC (10-bit)	Vref	OP	CMP	MCU working voltage	Built-in Driver	LDO
M135系列	SSOP24	SC32M135E5SJU	32	8	M0+	1	72	6	4	1	-	2	1	1	-	12	1	1	2	3	2.0~5.5	-	-
	TSSOP28	SC32M135G5XJU	32	8	M0+	1	72	6	4	1	-	2	1	1	-	13	1	1	2	3	2.0~5.5	-	-
	LQFP32	SC32M135K5PJR	32	8	M0+	1	72	6	4	1	-	2	1	1	-	15	1	1	2	3	2.0~5.5	-	-
	QFN32(4*4)	SC32M135K5QJR	32	8	M0+	1	72	6	4	1	-	2	1	1	-	15	1	1	2	3	2.0~5.5	-	-
SCDx13系列	TSSOP28	SCD3132AG5XJU	32	8	M0+	1	72	6	4	1	-	2	1	1	-	11	1	1	2	3	2.0~5.5	3P3N	Y
	TSSOP28	SCD3131AG5XJU	32	8	M0+	1	72	6	4	1	-	2	1	1	-	11	1	1	2	3	2.0~5.5	3P3N	Y

8bit 8051 Series

SC95F High-Performance Series, super high-speed and Large-resource 1T 8051
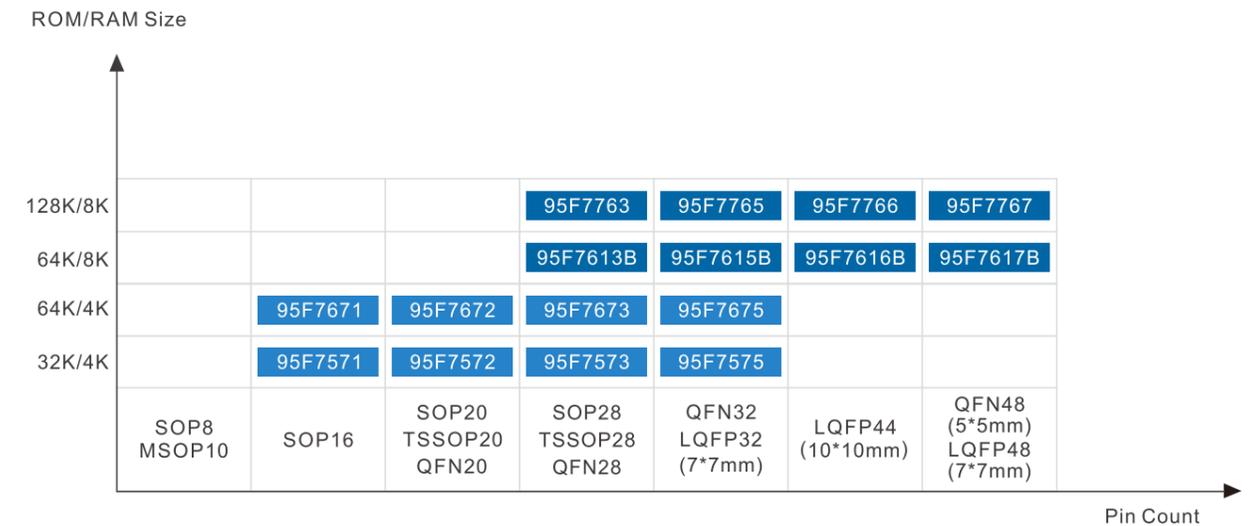
> Product Highlights

1. **Enhanced 1T 8051 core:** Ultra-Fast Clock Speed (32MHz), Single-Cycle Instruction, equivalent to other 1T 8051 core running at 64MHz.

2. **Abundant resources：** 128K FLASH，8K SRAM，6K EEPROM.

3. **Bootloader：** 4K Independent LDROM, capable of OTA functionality.

4. **Wide Operating Voltage：** 2.0~5.5V

5. **Wide Operating Temperature：** -40~105℃

6. **Ultra-Fast ADC:** 1Msps, 12-bit, 17 channels, built-in reference voltage: 1.024V/2.048V.

7. **Coprocessor:** Hardware multiplier and divider (16*16bit, 32/16bit), dual DPTR.

8. **Multiple Interfaces:** 1 UART + 6 USCI (UART/SPI/IIC).

9. **Enhanced Security:** 96bit UID, User ID, CRC verification module.

10. **PWM：** 16-bit, 14 channels, support dead-zone and complementary output, frequency up to 32MHz, high-speed and efficient.

11. **LCD/LED Driver:** 8*24/6*26/5*27/4*28.

12. **Comparators:** 4 input channels, 16-level selectable comparison voltage.

13. **High-Performance Touch key:**

    1. Supports up to 31 high-sensitivity touch keys.

    2. Mutual capacitance, Over-air gap Touch, wheel/slider, proximity sensing, matrix keys.

    3. High Signal-to-Noise Ratio (SNR > 100), high resolution 0.1pF.

    4. Adaptive touch sensitivity performance: different panel thicknesses, temperatures, and humidity levels.

    5. Low power consumption, strong anti-interference: EFT 4KV, ESD 6KV, 10V Dynamic CS.

14. **Proximity Sensing:**

    1. Detection distance of 15cm.

    2. 2D/3D sensing capabilities.

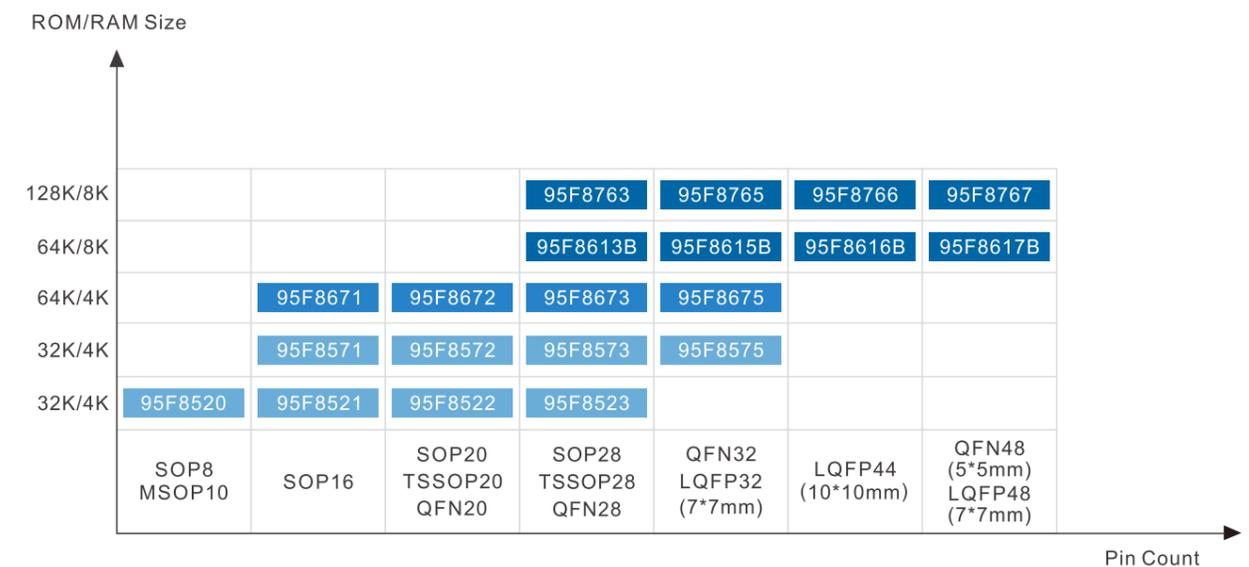   3. Strong anti-interference and excellent small signal processing capabilities.

· **Application Areas:** Automotive, White Goods, Industrial Control, Motor Control, IoT, Smart Healthcare, Smart Cities, Security, Wearable Devices, Consumer Goods, etc.

> SC95F Series Roadmap

95F7 High-Performance GP MCUs

ROM/RAM Size

ROM/RAM Size	SOP8 MSOP10	SOP16	SOP20 TSSOP20 QFN20	SOP28 TSSOP28 QFN28	QFN32 LQFP32 (7*7mm)	LQFP44 (10*10mm)	QFN48 (5*5mm) LQFP48 (7*7mm)
128K/8K				95F7763	95F7765	95F7766	95F7767
64K/8K				95F7613B	95F7615B	95F7616B	95F7617B
64K/4K		95F7671	95F7672	95F7673	95F7675		
32K/4K		95F7571	95F7572	95F7573	95F7575		

Pin Count

95F8 High-Performance TK MCUs

ROM/RAM Size

ROM/RAM Size	SOP8 MSOP10	SOP16	SOP20 TSSOP20 QFN20	SOP28 TSSOP28 QFN28	QFN32 LQFP32 (7*7mm)	LQFP44 (10*10mm)	QFN48 (5*5mm) LQFP48 (7*7mm)
128K/8K				95F8763	95F8765	95F8766	95F8767
64K/8K				95F8613B	95F8615B	95F8616B	95F8617B
64K/4K		95F8671	95F8672	95F8673	95F8675		
32K/4K		95F8571	95F8572	95F8573	95F8575		
32K/4K	95F8520	95F8521	95F8522	95F8523			

Pin Count

95F7 High-Performance GP MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM(K Bytes)	Voltage(V)	1%IRC(MHz) 32K Autocorrection	Ipd(uA)	UART	USCI(UART/SPI/IIC)	ADC(12 bit)	PWM-16bit (with dead-time insertion)	LCD/LED Driver	EXT Crystal	CMP
757 Series	SOP16	SC95F7571	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	2	8	5	-	-	-
	SOP/TSSOP/QFN 20	SC95F7572	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	9	8	-	-	-
	SOP/TSSOP/QFN 28	SC95F7573	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
	LQFP/QFN 32	SC95F7575	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
767 Series	SOP16	SC95F7671	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	2	8	5	-	-	-
	SOP/TSSOP/QFN 20	SC95F7672	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	9	8	-	-	-
	SOP/TSSOP/QFN 28	SC95F7673	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
	LQFP/QFN 32	SC95F7675	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
761B Series	SOP/TSSOP 28	SC95F7613B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	8	4*16	-	4
	LQFP/QFN 32	SC95F7615B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	12	4*16	32K	4
	LQFP44	SC95F7616B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	5	17	12	8*24/6*26/5*27/4*28	32K	4
	LQFP/QFN 48	SC95F7617B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	6	17	14	8*24/6*26/5*27/4*28	32K	4
776 Series	SOP/TSSOP 28	SC95F7763	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	8	4*16	-	4
	LQFP/QFN 32	SC95F7765	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	12	4*16	32K	4
	LQFP44	SC95F7766	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	5	17	12	8*24/6*26/5*27/4*28	32K	4
	LQFP/QFN 48	SC95F7767	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	6	17	14	8*24/6*26/5*27/4*28	32K	4

95F8 High-Performance TK MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM(K Bytes)	Voltage(V)	1%IRC(MHz) 32K Autocorrection	TK number(Max)	UART	USCI(UART/SPI/IIC)	ADC(12 bit)	PWM-16bit (with dead-time insertion)	LCD/LED Driver	TK application types	Touch Key property
852 Series	MSOP10/SOP8	SC95F8520	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4(2%)	7/5	1	1	3	1	-		
	SOP16	SC95F8521	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4(2%)	13	1	2	6	5	-		
	SOP/TSSOP/QFN 20	SC95F8522	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4(2%)	17	1	3	7	8	-		
	SOP/TSSOP/QFN 28	SC95F8523	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4(2%)	23	1	3	11	8	-		
857 Series	SOP16	SC95F8571	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	13	1	2	8	5	-		
	SOP/TSSOP/QFN 20	SC95F8572	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	17	1	3	9	8	-		
	SOP/TSSOP/QFN 28	SC95F8573	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	23	1	3	13	8	-		
	LQFP/QFN 32	SC95F8575	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	27	1	3	13	8	-	Spring Buttons Copper foil Touchless Buttons Proximity Sensing Full touch ITO LCD Matrix buttons	10V dynamic CS EFT 4KV ESD 8KV
867 Series	SOP16	SC95F8671	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	13	1	2	8	5	-		
	SOP/TSSOP/QFN 20	SC95F8672	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	17	1	3	9	8	-		
	SOP/TSSOP/QFN 28	SC95F8673	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	23	1	3	13	8	-		
	LQFP/QFN 32	SC95F8675	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	27	1	3	13	8	-		
861B Series	SOP/TSSOP 28	SC95F8613B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	8	4*16		
	LQFP/QFN 32	SC95F8615B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	12	4*16		
	LQFP44	SC95F8616B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	5	17	12	8*24/6*26/5*27/4*28		
	LQFP/QFN 48	SC95F8617B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	6	17	14	8*24/6*26/5*27/4*28		
876 Series	SOP/TSSOP 28	SC95F8763	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	8	4*16		
	LQFP/QFN 32	SC95F8765	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	12	4*16		
	LQFP44	SC95F8766	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	5	17	12	8*24/6*26/5*27/4*28		
	LQFP/QFN 48	SC95F8767	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	6	17	14	8*24/6*26/5*27/4*28		

# 8bit 8051 Series

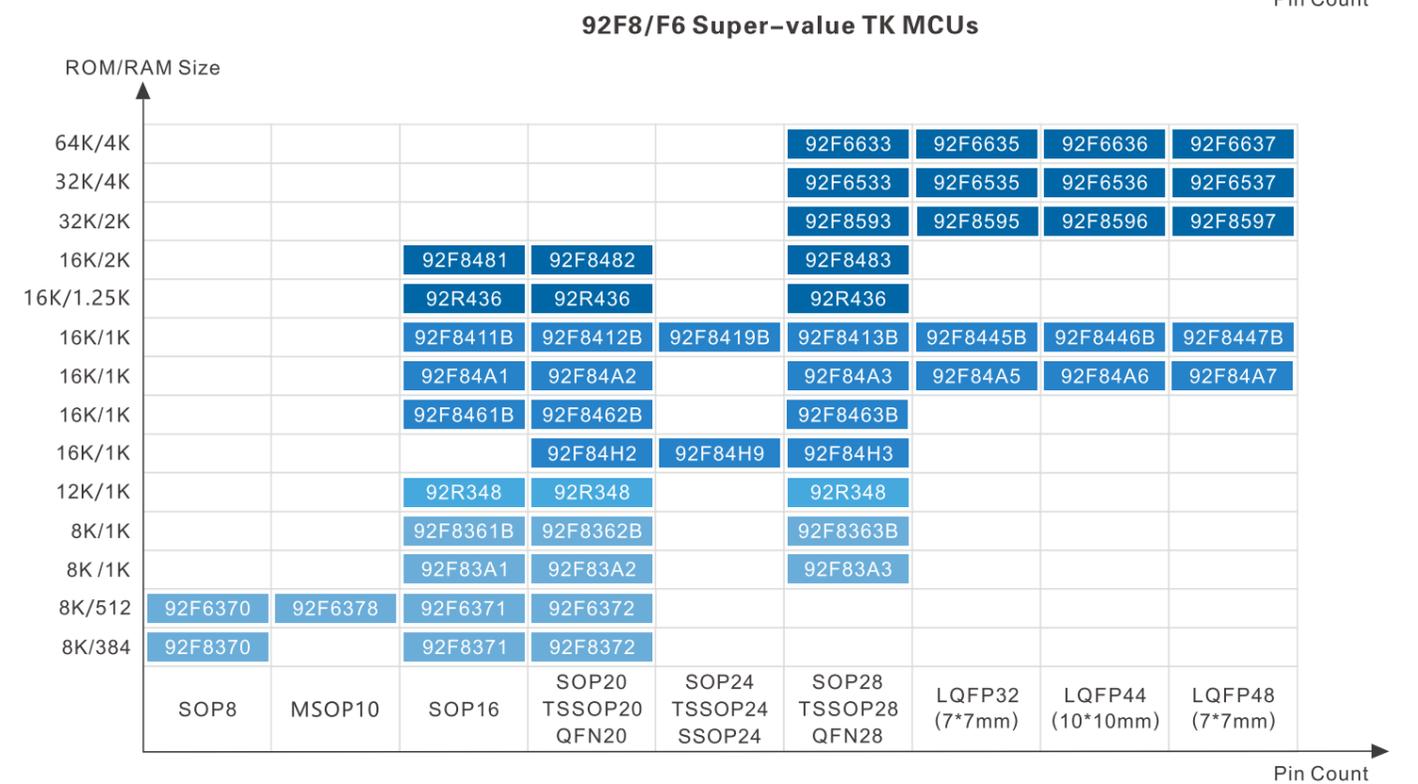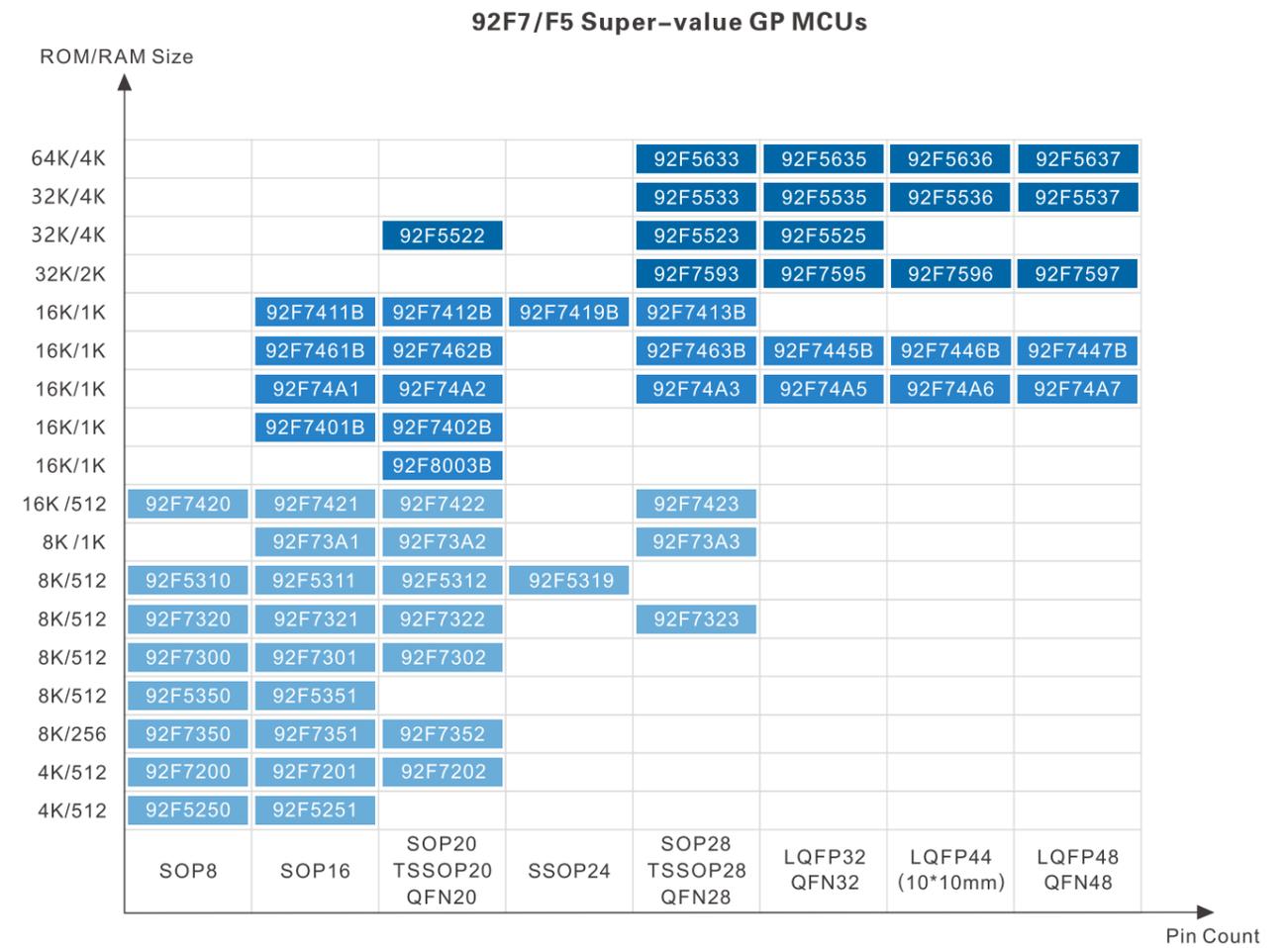## SC92F Super value series

Product Highlights

1. **High–Speed 1T 8051**

2. **Large Resources:** 64K FLASH, ≤4K SRAM, 1K EEPROM.

3. **Bootloader:** 4K Independent LDROM, capable of OTA functionality.

4. **Operating Voltage:** 2.0V~5.5V

5. **Operating Temperature:** -40℃~85℃ (531 Series、6x3 Series、5x3 Series ≥105℃)

6. **Low–Power：** Typical current of 0.6uA in power-down mode.

7. **Coprocessor:** Hardware Multiplier/Divider (16×16-bit, 32/16-bit)

8. **Buzzer Driver:** 10-level Carrier Frequency Control (5x3 series)

9. **Multiple Interfaces:** ≤4 UART (with freely mappable pins on 6x3 and 5x3 series) + 1 SSI (with freely mappable pins on 6x3 and 5x3 series)

10. **PWM:** 12-bit, 8 channels, with Dead-Band Complementary Function

11. **LCD/LED Driver:** LED Common/Hyperbola Drive up to 7×8 (5x3 series); LED/LCD conventional modes up to 8×24 / 6×26 / 5×27 / 4×28 (selectable)

12. **Analog Peripherals:** 4-input CMP (Comparator) with 16-level selectable comparison voltage; one Zero-Cross Detection (ZCD)/OP/CMP Triple-Mode Analog Operational Amplifier (531 series)

13. **ADC:** 12-bit, max 17 channels, built-in reference voltage: 2.4V

14. **High–Performance Touch:**

    1.Supports up to 31 high-sensitivity touch keys.

    2.Over-air gap Touch, wheel/slider, water level detection.

    3.High Signal-to-Noise Ratio (SNR > 100), high resolution 0.1pF

    4.Adaptive touch sensitivity performance: different panel thicknesses, temperatures, and humidity levels.

    5.Low power consumption, strong anti-interference: EFT 4KV, ESD 8KV, CS dynamic 10V.
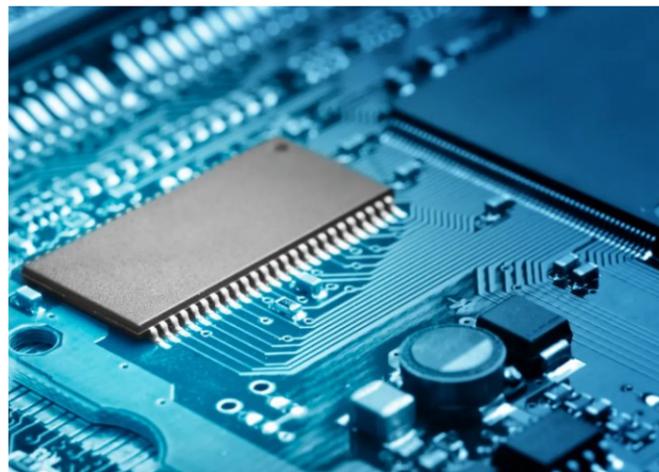
Application Areas:

Home Appliances, Industrial Control, Motor Control, IoT, Smart Healthcare, Smart Cities, Security, Wearable Devices, Consumer Goods, etc.

SC92F Series Roadmap

92F7/F5 Super–value GP MCUs

ROM/RAM Size

ROM/RAM Size	SOP8	SOP16	SOP20 TSSOP20 QFN20	SSOP24	SOP28 TSSOP28 QFN28	LQFP32 QFN32	LQFP44 (10*10mm)	LQFP48 QFN48
64K/4K					92F5633	92F5635	92F5636	92F5637
32K/4K					92F5533	92F5535	92F5536	92F5537
32K/4K			92F5522		92F5523	92F5525		
32K/2K					92F7593	92F7595	92F7596	92F7597
16K/1K		92F7411B	92F7412B	92F7419B	92F7413B			
16K/1K		92F7461B	92F7462B		92F7463B	92F7445B	92F7446B	92F7447B
16K/1K		92F74A1	92F74A2		92F74A3	92F74A5	92F74A6	92F74A7
16K/1K		92F7401B	92F7402B					
16K/1K			92F8003B					
16K/512	92F7420	92F7421	92F7422		92F7423			
8K/1K		92F73A1	92F73A2		92F73A3			
8K/512	92F5310	92F5311	92F5312	92F5319				
8K/512	92F7320	92F7321	92F7322		92F7323			
8K/512	92F7300	92F7301	92F7302					
8K/512	92F5350	92F5351						
8K/256	92F7350	92F7351	92F7352					
4K/512	92F7200	92F7201	92F7202					
4K/512	92F5250	92F5251						

Pin Count

92F8/F6 Super–value TK MCUs

ROM/RAM Size

ROM/RAM Size	SOP8	MSOP10	SOP16	SOP20 TSSOP20 QFN20	SOP24 TSSOP24 SSOP24	SOP28 TSSOP28 QFN28	LQFP32 (7*7mm)	LQFP44 (10*10mm)	LQFP48 (7*7mm)
64K/4K						92F6633	92F6635	92F6636	92F6637
32K/4K						92F6533	92F6535	92F6536	92F6537
32K/2K						92F8593	92F8595	92F8596	92F8597
16K/2K			92F8481	92F8482		92F8483			
16K/1.25K			92R436	92R436		92R436			
16K/1K			92F8411B	92F8412B	92F8419B	92F8413B	92F8445B	92F8446B	92F8447B
16K/1K			92F84A1	92F84A2		92F84A3	92F84A5	92F84A6	92F84A7
16K/1K			92F8461B	92F8462B		92F8463B			
16K/1K				92F84H2	92F84H9	92F84H3			
12K/1K			92R348	92R348		92R348			
8K/1K			92F8361B	92F8362B		92F8363B			
8K/1K			92F83A1	92F83A2		92F83A3			
8K/512	92F6370	92F6378	92F6371	92F6372					
8K/384	92F8370		92F8371	92F8372					

Pin Count

SinOne SC92F7/F5 Super-value GP MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM	Voltage(V)	1%IRC(MHz)	Ipd(uA)	UART	SSI (UART/SPI/IIC)	ADC(12 bit)	PWM (with dead-time insertion)	LCD/LED Driver	EXT Crystal	CMP	3-in-1 analog op-amp module (ZCD/CMP/OP)
525 Series	SOP8	SC92F5250	4	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.4	-	1	6	16bit*2ch	3*4~1*2/1*1	-	-	-
	SOP16	SC92F5251	4	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.4	-	1	14	16bit*5ch	6*7~1*2/1*1	-	-	-
720 Series	SOP8	SC92F7200	4	512	0/0.5/1/4	-	128B	2.4~5.5	24/12/6/2	3	1	-	5	8bit*2ch	-	-	-	-
	SOP16	SC92F7201	4	512	0/0.5/1/4	-	128B	2.4~5.5	24/12/6/2	3	1	-	7	8bit*4ch	-	-	-	-
	SOP/TSSOP/QFN 20	SC92F7202	4	512	0/0.5/1/4	-	128B	2.4~5.5	24/12/6/2	3	1	-	9	8bit*6ch	1/2Bias 5COM	-	-	-
535 Series	SOP8	SC92F5350	8	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.4	-	1	6	16bit*2ch	3*4~1*2/1*1	-	-	-
	SOP16	SC92F5351	8	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.4	-	1	14	16bit*5ch	6*7~1*2/1*1	-	-	-
735 Series	SOP8	SC92F7350	8	256	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	5	8bit*2ch	-	-	-	-
	SOP16	SC92F7351	8	256	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	7	8bit*4ch	1/2Bias 4COM	-	-	-
	SOP/TSSOP/QFN 20	SC92F7352	8	256	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	9	8bit*6ch	1/2Bias 5COM	-	-	-
730 Series	SOP8	SC92F7300	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	3	1	-	5	8bit*2ch	-	-	-	-
	SOP16	SC92F7301	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	3	1	-	7	8bit*4ch	1/2Bias 4COM	-	-	-
	SOP/TSSOP/QFN 20	SC92F7302	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	3	1	-	9	8bit*6ch	1/2Bias 5COM	-	-	-
531 Series	SOP8	SC92F5310	8	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.8	1	1	6	16bit*2ch	3*4~1*2/1*1	-	-	-
	SOP16	SC92F5311	8	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.8	1	1	14	16bit*5ch	6*7~1*2/1*1	-	1	1
	SOP/TSSOP/QFN20	SC92F5312	8	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.8	1	1	18	16bit*8ch	7*8~1*2/1*1	-	1	1
	SSOP24/QFN24	SC92F5319	8	512	-	-	256B	2.4~5.5	32/16/8/2.66	1.8	1	1	22	16bit*8ch	7*8~1*2/1*1	-	1	1
732 Series	SOP8	SC92F7320	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	5	(8+2)bit*2ch	-	-	-	-
	SOP16	SC92F7321	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	7	(8+2)bit*3ch	1/2Bias 4COM	-	-	-
	SOP/TSSOP/QFN 20	SC92F7322	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	9	(8+2)bit*3ch	1/2Bias 5COM	-	-	-
	SOP/TSSOP 28	SC92F7323	8	512	0/0.5/1/8	-	128B	2.4~5.5	24/12/6/2	<1	1	-	11	(8+2)bit*3ch	1/2Bias 5COM	32K	-	-
73A Series	SOP16	SC92F73A1	8	1K	0/0.5/1/8	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	6	10bit*4ch (complementary)	1/2Bias 2COM	-	-	-
	SOP/TSSOP 20	SC92F73A2	8	1K	0/0.5/1/8	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	7	10bit*6ch (complementary)	1/2Bias 5COM	-	-	-
	SOP/TSSOP 28	SC92F73A3	8	1K	0/0.5/1/8	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	11	10bit*6ch (complementary)	1/2Bias 5COM	2-16M	-	-
742 Series	SOP8	SC92F7420	16	512	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	0	2	5	8bit*2ch	-	-	-	-
	SOP16	SC92F7421	16	512	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	0	2	7	8bit*3ch	1/2Bias 4COM	-	-	-
	SOP/TSSOP/QFN 20	SC92F7422	16	512	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	0	2	9	8bit*6ch	1/2Bias 5COM	-	-	-
	SOP/TSSOP/QFN 28	SC92F7423	16	512	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	0	2	11	8bit*6ch	1/2Bias 5COM	32K	-	-
740 Series	SOP16	SC92F7401B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	6	10bit*5ch (complementary)	-	2-16M	-	-
	SOP/TSSOP 20	SC92F7402B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	8	10bit*7ch (complementary)	-	2-16M	-	-
746B Series	SOP16	SC92F7461B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	6	10bit*4ch (complementary)	1/2Bias 2COM	-	-	-
	SOP/TSSOP 20	SC92F7462B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	7	10bit*6ch (complementary)	1/2Bias 5COM	-	-	-
	SOP/TSSOP 28	SC92F7463B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	11	10bit*6ch (complementary)	1/2Bias 5COM	2-16M	-	-
741B Series	SOP16	SC92F7411B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	24/12/6/2	3	1	1	6	10bit*4ch (complementary)	2COM	-	-	-
	SOP/TSSOP 20	SC92F7412B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	24/12/6/2	3	1	1	7	10bit*6ch (complementary)	5COM	-	-	-
	SSOP24	SC92F7419B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	24/12/6/2	3	1	1	8	10bit*6ch (complementary)	5COM	2-16M	-	-
	SOP/TSSOP28	SC92F7413B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	24/12/6/2	3	1	1	11	10bit*6ch (complementary)	5COM	2-16M	-	-
74A Series	SOP16	SC92F74A1	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	6	10bit*4ch (complementary)	1/2Bias 2COM	-	-	-
	SOP/TSSOP 20	SC92F74A2	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	7	10bit*6ch (complementary)	1/2Bias 5COM	-	-	-
	SOP/TSSOP 28	SC92F74A3	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	11	10bit*6ch (complementary)	1/2Bias 5COM	2-16M	-	-

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM	Voltage(V)	1%IRC(MHz)	Ipd(uA)	UART	SSI (UART/SPI/IIC)	ADC(12 bit)	PWM (with dead-time insertion)	LCD/LED Driver	EXT Crystal	CMP	3-in-1 analog op-amp module (ZCD/CMP/OP)
74A Series	LQFP32	SC92F74A5	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	11	12bit*3ch (complementary)	-	2-16M	1	-
	LQFP44	SC92F74A6	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	16	12bit*8ch (complementary)	8*24/6*26/5*27/4*28	2-16M	1	-
	LQFP48	SC92F74A7	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	16	12bit*8ch (complementary)	8*24/6*26/5*27/4*28	2-16M	1	-
744B Series	LQFP32	SC92F7445B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	12	12bit*3ch	-	-	4	-
	LQFP44	SC92F7446B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	17	12bit*8ch	8*24/6*26/5*27/4*28	32K	4	-
	LQFP48	SC92F7447B	16	1K	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	17	12bit*8ch	8*24/6*26/5*27/4*28	32K	4	-
759Series	SOP/TSSOP 28	SC92F7593	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	2.5	1	1	12	12bit*3ch	8*15/4*19	-	4	-
	LQFP32	SC92F7595	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	2.5	1	1	12	12bit*3ch	-	-	4	-
	LQFP44	SC92F7596	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	2.5	1	1	17	12bit*8ch	8*24/6*26/5*27/4*28	32K	4	-
	LQFP48	SC92F7597	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	2.5	1	1	17	12bit*8ch	8*24/6*26/5*27/4*28	32K	4	-
552 Series	SOP/TSSOP/QFN20	SC92F5522	32	4K	0/0.5/1/32	0/1/2/4	512B	2.4~5.5	24/12/6/2	1.8	2	1	18	16bit*8ch	7*8~1*1 6*12/4*14/3*15/4*12	-	-	-
	SOP/TSSOP/QFN28	SC92F5523	32	4K	0/0.5/1/32	0/1/2/4	512B	2.4~5.5	24/12/6/2	1.8	2	1	26	16bit*8ch	11*12~1*1 5*15/4*16	-	-	-
	LQFP32	SC92F5525	32	4K	0/0.5/1/32	0/1/2/4	512B	2.4~5.5	24/12/6/2	1.8	2	1	31	16bit*8ch	11*12~1*1 8*12/6*14/5*15/4*16	-	-	-
553 Series (coming soon)	SOP/TSSOP/QFN28	SC92F5533	32	4K	0/1/2/32	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	16	-	8*8/6*10 5*11/4*12	32K	1	-
	LQFP/QFN32	SC92F5535	32	4K	0/1/2/32	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	18	16bit*3ch	8*10/6*12 5*13/4*14	32K	1	-
	LQFP44	SC92F5536	32	4K	0/1/2/32	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	21	16bit*6ch	8*24/6*26 5*27/4*28	32K	1	-
	LQFP/QFN48	SC92F5537	32	4K	0/1/2/32	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	21	16bit*6ch	8*24/6*26 5*27/4*28	32K	1	-
563系列 (coming soon)	SOP/TSSOP/QFN28	SC92F5633	64	4K	0/1/2/64	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	16	-	8*8/6*10 5*11/4*12	32K	1	-
	LQFP/QFN32	SC92F5635	64	4K	0/1/2/64	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	18	16bit*3ch	8*10/6*12 5*13/4*14	32K	1	-
	LQFP44	SC92F5636	64	4K	0/1/2/64	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	21	16bit*6ch	8*24/6*26 5*27/4*28	32K	1	-
	LQFP/QFN48	SC92F5637	64	4K	0/1/2/64	0/2/4/8	1KB	2.0~5.5	48/24/12/4	2.3	3	1	21	16bit*6ch	8*24/6*26 5*27/4*28	32K	1	-

SinOne SC92F8/F6 Super-value TK MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM (Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM	Voltage(V)	1%IRC(MHz)	TK number(Max)	UART	SSI (UART/SPI/IIC)	ADC(12 bit)	PWM	LCD/LED Driver	TK application types	Touch Key property
637 Series	SOP8	SC92F6370	8	512B	–	–	256B	2.4~5.5	32/16/8/2.66	5	–	1	–	16bit*1	–		
	MSOP10	SC92F6378	8	512B	–	–	256B	2.4~5.5	32/16/8/2.66	7	–	1	–	16bit*2	–		
	SOP16	SC92F6371	8	512B	–	–	256B	2.4~5.5	32/16/8/2.66	13	–	1	–	16bit*2	–		
	SOP/TSSOP/QFN20	SC92F6372	8	512B	–	–	256B	2.4~5.5	32/16/8/2.66	17	–	1	–	16bit*4	–		
837 Series	SOP8	SC92F8370	8	384B	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	5	–	1	–	8bit*1	–		
	SOP16	SC92F8371	8	384B	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	12	–	1	–	8bit*2	–		
	SOP/TSSOP 20	SC92F8372	8	384B	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	16	–	1	–	8bit*4	–		
836B Series	SOP16	SC92F8361B	8	1K	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F8362B	8	1K	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP 28	SC92F8363B	8	1K	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	23	1	1	11	10bit*6 (complementary)	5COM		
83A Series	SOP16	SC92F83A1	8	1K	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F83A2	8	1K	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP 28	SC92F83A3	8	1K	0/0.5/1/8	–	128B	2.4~5.5	12/6/2	23	1	1	11	10bit*6 (complementary)	5COM	Spring Buttons Copper foil Touchless Buttons Proximity Sensing Full touch ITO LCD Matrix buttons	10V dynamic CS EFT 4KV ESD 8KV
R348 Series	SOP16	SC92R348	12	1K	–	–	128B	2.4~5.5	24/12/6/2	10	1	1	6	10bit*4 (complementary)	–		
	SOP/TSSOP 20	SC92R348	12	1K	–	–	128B	2.4~5.5	24/12/6/2	14	1	1	6	10bit*6 (complementary)	–		
	SOP/TSSOP 28	SC92R348	12	1K	–	–	128B	2.4~5.5	24/12/6/2	20	1	1	11	10bit*6 (complementary)	–		
84H Series	SOP20/TSSOP20	SC92F84H2	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	14	1	1	15	–	–		
	SOP24/TSSOP24	SC92F84H9	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	18	1	1	19	16bit*3	–		
	SOP28/TSSOP28	SC92F84H3	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	20	1	1	21	16bit*6	–		
846BSeries	SOP16	SC92F8461B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F8462B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP/QFN 28	SC92F8463B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	23	1	1	11	10bit*6 (complementary)	5COM		
841BSeries	SOP16	SC92F8411B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	24/12/6/2	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F8412B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	24/12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SSOP24	SC92F8419B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	24/12/6/2	19	1	1	8	10bit*6 (complementary)	5COM		
	SOP/TSSOP28	SC92F8413B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	24/12/6/2	23	1	1	11	10bit*6 (complementary)	5COM		
84ASeries	SOP16	SC92F84A1	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F84A2	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP/QFN 28	SC92F84A3	16	1K	0/0.5/1/16	–	128B	2.4~5.5	12/6/2	23	1	1	11	10bit*6 (complementary)	5COM		
	LQFP32	SC92F84A5	16	1K	0/0.5/1/16	–	128B	2.4~5.5	16/8/4/1.33	22	1	1	11	12bit*3 (complementary)	–		
	LQFP44	SC92F84A6	16	1K	0/0.5/1/16	–	128B	2.4~5.5	16/8/4/1.33	31	1	1	11	12bit*8	8*24/6*26/ 5*27/4*28		
	LQFP48	SC92F84A7	16	1K	0/0.5/1/16	–	128B	2.4~5.5	16/8/4/1.33	31	1	1	16	12bit*8 (complementary)	8*24/6*26/ 5*27/4*28		

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM (Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM	Voltage(V)	1%IRC(MHz)	TK number(Max)	UART	SSI (UART/SPI/IIC)	ADC(12 bit)	PWM	LCD/LED Driver	TK application types	Touch Key property
844BSeries	LQFP32	SC92F8445B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	16/8/4/1.33	22	1	1	12	12bit*3	–		
	LQFP44	SC92F8446B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	16/8/4/1.33	31	1	1	17	12bit*8	8*24/6*26/ 5*27/4*28		
	LQFP48	SC92F8447B	16	1K	0/0.5/1/16	–	128B	2.4~5.5	16/8/4/1.33	31	1	1	17	12bit*8	8*24/6*26/ 5*27/4*28		
R436Series	SOP16	SC92R436	16	1.25K	0/0.5/1/16	0/1/2/4	–	2.4~5.5	20/10/5/1.66	14	1	1	14	10bit*5 (complementary)	7*8~1*1 5*3/3*5/2*6		
	SOP/TSSOP/QFN20	SC92R436	16	1.25K	0/0.5/1/16	0/1/2/4	–	2.4~5.5	20/10/5/1.66	18	1	1	18	10bit*8 (complementary)	7*8~1*1 6*4/4*6/ 3*7/2*8		
	SOP/TSSOP/QFN28	SC92R436	16	1.25K	0/0.5/1/16	0/1/2/4	–	2.4~5.5	20/10/5/1.66	24	1	1	26	10bit*8 (complementary)	10*11~1*1 8*12/6*14/ 5*15/4*16		
848Series	SOP16	SC92F8481	16	2K	0/1/2/16	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F8482	16	2K	0/1/2/16	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP 28	SC92F8483	16	2K	0/1/2/16	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	23	1	1	11	10bit*6 (complementary)	5COM		
859Series	SOP/TSSOP 28	SC92F8593	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	22	1	1	12	12bit*3	4*19/8*15		
	LQFP32	SC92F8595	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	22	1	1	12	12bit*3	–	Spring Buttons Copper foil Touchless Buttons Proximity Sensing Full touch ITO LCD Matrix buttons	10V dynamic CS EFT 4KV ESD 8KV
	LQFP44	SC92F8596	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	31	1	1	17	12bit*8	8*24/6*26/ 5*27/4*28		
	LQFP48	SC92F8597	32	2K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	32/16/8/2.66	31	1	1	17	12bit*8	8*24/6*26/ 5*27/4*28		
653Series (coming soon)	SOP/TSSOP 28	SC92F6533	32	4K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	48/24/12/4	16	3	1	8	16bit*2 8bit*8	7*8~1*1 8*8/6*10 5*11/4*12		
	LQFP32	SC92F6535	32	4K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	48/24/12/4	18	3	1	9	16bit*2 8bit*12	7*8~1*1 8*12/6*14 5*15/4*16		
	LQFP44	SC92F6536	32	4K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	48/24/12/4	24	4	1	9	16bit*2 8bit*16	7*8~1*1 8*16/6*18 5*19/4*20		
	LQFP48	SC92F6537	32	4K	0/1/2/32	0/1/2/4	1KB	2.0~5.5	48/24/12/4	24	4	1	9	16bit*2 8bit*16	7*8~1*1 8*16/6*18 5*19/4*20		
663Series (coming soon)	SOP/TSSOP 28	SC92F6633	64	4K	0/1/2/64	0/1/2/4	1KB	2.0~5.5	48/24/12/4	16	3	1	8	16bit*2 8bit*8	7*8~1*1 8*8/6*10 5*11/4*12		
	LQFP32	SC92F6635	64	4K	0/1/2/64	0/1/2/4	1KB	2.0~5.5	48/24/12/4	18	3	1	9	16bit*2 8bit*12	7*8~1*1 8*12/6*14 5*15/4*16		
	LQFP44	SC92F6636	64	4K	0/1/2/64	0/1/2/4	1KB	2.0~5.5	48/24/12/4	24	4	1	9	16bit*2 8bit*16	7*8~1*1 8*16/6*18 5*19/4*20		
	LQFP48	SC92F6637	64	4K	0/1/2/64	0/1/2/4	1KB	2.0~5.5	48/24/12/4	24	4	1	9	16bit*2 8bit*16	7*8~1*1 8*16/6*18 5*19/4*20		

8bit 8051 Series

SC92L Low-Power 1T 8051 Series

> Product Highlights

1. **Low-Power:** 12key@3.3V, i<10uA; STOP current 1uA, BTM current 0.5uA, WDT current 0.5uA.
2. **High Reliability:** ESD 8KV; EFT 4KV; Latch-up 200mA.
3. **Wide Operating Voltage:** 1.8 ~ 5.5V; **Wide Operating Temperature:** -40℃ ~ 105℃.
4. **Multiple Interfaces:** 1 UART + 5 USCI (UART/IIC/SPI).
5. **Built-in Bootloader:** 1K/2K/4K optional.
6. **ADC:** 12-bit, 17 channels; Built-in reference voltage: 1.024V/2.048V/2.4V.
7. **PWM:** 16-bit, 8 channels, supports complementary output with dead-zone.
8. **Hardware Multiplier and Divider:** 16*16bit; 32/16bit.
9. **LPD:** Low Voltage Detection, 8 voltage levels selectable, capable of generating interrupts.
10. **LCD:** 8*24/6*26/5*27/4*28.
11. **Over-air gap Touch:**

    1. Supports up to 32 high-sensitivity touch keys.
    2. Over-air gap Touch, wheel/slider, proximity sensing, matrix keys.
    3. High Signal-to-Noise Ratio (SNR > 100), high resolution 0.1pF.
    4. Adaptive touch sensitivity performance: different panel thicknesses, temperatures, and humidity levels.
    5. Low-power strong anti-interference: EFT 4KV, ESD 8KV, CS dynamic 10V.

· **Application:** IoT, Smart Hardware, Sensor Modules, Security, Wearable Devices, Consumer Goods, etc.

> SC92L Series Roadmap

92L7 Low-Power GP MCUs

92L8 Low-Power TK MCUs

SinOne SC92L7 Low-Power GP MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM(K Bytes)	Voltage(V)	2%IRC(MHz)/32K Autocorrection	Ipd(uA)	UART	USCI (UART/SPI/IIC)	ADC(12bit)	PWM - 16bit (full-function)	LCD/LED Driver	EXT Crystal	LPD	CMP
753 Series	SOP16	SC92L7531	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	1	1	2	6	5	-	-	Level 8	-
	SOP/TSSOP/QFN 20	SC92L7532	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	1	1	3	7	8	4*14	-	Level 8	-
	SOP/TSSOP/QFN 28	SC92L7533	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	1	1	3	11	8	4*20	32K	Level 8	-
	LQFP/QFN 32	SC92L7535	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	1	1	3	11	8	8*20/6*22/5*23/4*24	32K	Level 8	-
762 Series (Coming soon)	LQFP44	SC92L7626	64	8	0/1/2/64	0/1/2/4	1	1.8~5.5	32/16/8/4	1	1	5	17	8	8*24/6*26/5*27/4*28	32K	Level 8	4
	LQFP/QFN 48	SC92L7627	64	8	0/1/2/64	0/1/2/4	1	1.8~5.5	32/16/8/4	1	1	5	17	8	8*24/6*26/5*27/4*28	32K	Level 8	4

SinOne SC92L8 Low-Power TK MCUs

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM(K Bytes)	Voltage(V)	2%IRC(MHz)/32K Autocorrection	TK number (Max)	UART	USCI (UART/SPI/IIC)	ADC(12 bit)	PWM - 16bit (full-function)	LCD/LED Driver	TK application types	Touch Key property
853 Series	SOP16	SC92L8531	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	13	1	2	6	5	-		
	SOP/TSSOP/QFN 20	SC92L8532	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	17	1	3	7	8	4*14		
	SOP/TSSOP/QFN 28	SC92L8533	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	23	1	3	11	8	4*20	Spring Buttons Copper foil Touchless Buttons Proximity Sensing Full touch ITO LCD Matrix buttons	10V dynamic CS EFT 4KV ESD 8KV
	LQFP/QFN 32	SC92L8535	32	4	0/1/2/32	0/1/2/4	1	1.8~5.5	32/16/8/4	27	1	3	11	8	8*20/6*22/5*23/4*24		
862 Series (coming soon)	LQFP44	SC92L8626	64	8	0/1/2/64	0/1/2/4	1	1.8~5.5	32/16/8/4	32	1	5	17	8	8*24/6*26/5*27/4*28		
	LQFP/QFN 48	SC92L8627	64	8	0/1/2/64	0/1/2/4	1	1.8~5.5	32/16/8/4	32	1	5	17	8	8*24/6*26/5*27/4*28		

Strong Anti-interference Series for Heating Industry

> Product Highlights

Due to the use of natural gas and igniters in the combustion industry, there are high requirements for product safety. The main control MCU must withstand the high voltage scans of the igniters.

SC92F7 Strong Anti-Interference GP MCUs (Igniter-Level Anti-Interference Performance)

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM	Voltage(V)	1%IRC(MHz)	Ipd(uA)	UART	SSI(UART/SPI/IIC)	ADC(12 bit)	PWM	LCD/LED Driver	EXT Crystal	CMP
73A Series	SOP16	SC92F73A1	8	1	0/0.5/1/8	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	6	10bit*4ch (complementary)	1/2Bias 2COM	-	-
	SOP/TSSOP 20	SC92F73A2	8	1	0/0.5/1/8	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	7	10bit*6ch (complementary)	1/2Bias 5COM	-	-
	SOP/TSSOP 28	SC92F73A3	8	1	0/0.5/1/8	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	11	10bit*6ch (complementary)	1/2Bias 5COM	2-16M	-
74A Series	SOP16	SC92F74A1	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	6	10bit*4ch (complementary)	1/2Bias 2COM	-	-
	SOP/TSSOP 20	SC92F74A2	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	7	10bit*6ch (complementary)	1/2Bias 5COM	-	-
	SOP/TSSOP 28	SC92F74A3	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	11	10bit*6ch (complementary)	1/2Bias 5COM	2-16M	-

SC95F7 Strong Anti-Interference GP MCUs (Igniter-Level Anti-Interference Performance)

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM(K Bytes)	Voltage(V)	1%IRC(MHz) 32K Autocorrection	Ipd(uA)	UART	USCI(UART/SPI/IIC)	ADC(12 bit)	PWM - 16bit(with dead-time insertion)	LCD/LED Driver	EXT Crystal	CMP
757 Series	SOP16	SC95F7571	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	2	8	5	-	-	-
	SOP/TSSOP/QFN 20	SC95F7572	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	9	8	-	-	-
	SOP/TSSOP/QFN 28	SC95F7573	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
	LQFP/QFN 32	SC95F7575	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
767 Series	SOP16	SC95F7671	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	2	8	5	-	-	-
	SOP/TSSOP/QFN 20	SC95F7672	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	9	8	-	-	-
	SOP/TSSOP/QFN 28	SC95F7673	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
	LQFP/QFN 32	SC95F7675	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	2.5	1	3	13	8	-	2-16M	-
761B Series	SOP/TSSOP 28	SC95F7613B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	8	4*16	-	4
	LQFP/QFN 32	SC95F7615B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	12	4*16	32K	4
	LQFP44	SC95F7616B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	5	17	12	8*24/6*26/5*27/4*28	32K	4
	LQFP/QFN 48	SC95F7617B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	6	17	14	8*24/6*26/5*27/4*28	32K	4
776 Series	SOP/TSSOP 28	SC95F7763	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	8	4*16	-	4
	LQFP/QFN 32	SC95F7765	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	4	9	12	4*16	32K	4
	LQFP44	SC95F7766	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	5	17	12	8*24/6*26/5*27/4*28	32K	4
	LQFP/QFN 48	SC95F7767	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	2.5	1	6	17	14	8*24/6*26/5*27/4*28	32K	4

SC92F8 Strong Anti-Interference TK MCUs (Igniter-Level Anti-Interference Performance)

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM	Voltage(V)	1%IRC(MHz)	TK number(Max)	UART	SSI(UART/SPI/IIC)	ADC(12 bit)	PWM	LCD/LED Driver	TK application types	Touch Key property
83A Series	SOP16	SC92F83A1	8	1	0/0.5/1/8	-	128B	2.4~5.5	12/6/2	13	1	1	6	10bit*4 (complementary)	2COM	Spring Buttons Copper foil Touchless Buttons Proximity Sensing Full touch ITO LCD Matrix buttons	10V dynamic CS EFT 4KV ESD 8KV
	SOP/TSSOP 20	SC92F83A2	8	1	0/0.5/1/8	-	128B	2.4~5.5	12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP 28	SC92F83A3	8	1	0/0.5/1/8	-	128B	2.4~5.5	12/6/2	23	1	1	11	10bit*6 (complementary)	5COM		
84A Series	SOP16	SC92F84A1	16	1	0/0.5/1/16	-	128B	2.4~5.5	12/6/2	13	1	1	6	10bit*4 (complementary)	2COM		
	SOP/TSSOP 20	SC92F84A2	16	1	0/0.5/1/16	-	128B	2.4~5.5	12/6/2	17	1	1	7	10bit*6 (complementary)	5COM		
	SOP/TSSOP/QFN 28	SC92F84A3	16	1	0/0.5/1/16	-	128B	2.4~5.5	12/6/2	23	1	1	11	10bit*6 (complementary)	5COM		

SinOne SC95F8 Strong Anti-Interference TK MCUs (Igniter-Level Anti-Interference Performance)

Series	PKG Type	P/N	Flash ROM(K Bytes)	SRAM(K Bytes)	IAP(K Bytes)	BootLoader(K Bytes)	EEPROM(K Bytes)	Voltage(V)	1%IRC(MHz) 32K Autocorrection	TK number(Max)	UART	USCI(UART/SPI/IIC)	ADC(12 bit)	PWM - 16bit(with dead-time insertion)	LCD/LED Driver	TK application types	Touch Key property
857 Series	SOP16	SC95F8571	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	13	1	2	8	5	-	Spring Buttons Copper foil Touchless Buttons Proximity Sensing Full touch ITO LCD Matrix buttons	10V dynamic CS EFT 4KV ESD 8KV
	SOP/TSSOP/QFN 20	SC95F8572	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	17	1	3	9	8	-		
	SOP/TSSOP/QFN 28	SC95F8573	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	23	1	3	13	8	-		
	LQFP/QFN 32	SC95F8575	32	4	0/1/2/32	0/1/2/4	6	2.0~5.5	32/16/8/4	27	1	3	13	8	-		
867 Series	SOP16	SC95F8671	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	13	1	2	8	5	-		
	SOP/TSSOP/QFN 20	SC95F8672	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	17	1	3	9	8	-		
	SOP/TSSOP/QFN 28	SC95F8673	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	23	1	3	13	8	-		
	LQFP/QFN 32	SC95F8675	64	4	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4	27	1	3	13	8	-		
861B Series	SOP/TSSOP 28	SC95F8613B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	8	4*16		
	LQFP/QFN 32	SC95F8615B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	12	4*16		
	LQFP44	SC95F8616B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	5	17	12	8*24/6*26/5*27/4*28		
	LQFP/QFN 48	SC95F8617B	64	8	0/1/2/64	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	6	17	14	8*24/6*26/5*27/4*28		
876 Series	SOP/TSSOP 28	SC95F8763	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	8	4*16		
	LQFP/QFN 32	SC95F8765	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	19	1	4	9	12	4*16		
	LQFP44	SC95F8766	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	5	17	12	8*24/6*26/5*27/4*28		
	LQFP/QFN 48	SC95F8767	128	8	0/1/2/128	0/1/2/4	6	2.0~5.5	32/16/8/4(2%)	31	1	6	17	14	8*24/6*26/5*27/4*28		

8-bit 8051 SpecialApplication Series MCU & Standard Function IC

> Highlights of Spcial Application Series MCU Products

SinOne MCU has innovatively developed multiple industry application products: proximity sensing, 40-channel PWM, Non-contact water lever detection, and standard touch key products.

Proximity Sensing Flash MCU

Series	PKG Type	P/N	Flash ROM (K Bytes)	RAM (K Bytes)	IAP(K Bytes)	BootLoader (K Bytes)	EEPROM(K Bytes)	Voltage(V)	32K Autocorrection	2%IRC(MHz)	TK number(Max)	UART	USCI (UART/SPI/IIC)	ADC(12 bit)	PWM (with dead-time insertion)	LCD/LED Driver	Proximity Sensing (Max)
FS proximity sensing Series	MSOP10/SOP8	SC95FS520	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4	7/5	1	1	3	16bit*1	-	5
	SOP16	SC95FS521	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4	13	1	2	6	16bit*5	-	5
	SOP/TSSOP/QFN 20	SC95FS522	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4	17	1	3	7	16bit*8	-	5
	SOP/TSSOP/QFN 28	SC95FS523	32	4	0/1/2/32	1	-	2.0~5.5	32/16/8/4	23	1	3	11	16bit*8	-	5

SC95FW 40-Channel PWM Flash MCU

Series	PKG Type	P/N	Flash ROM (K Bytes)	RAM (K Bytes)	IAP(K Bytes)	BootLoader (K Bytes)	EEPROM	Voltage(V)	32K Autocorrection	2%IRC(MHz)	Ipd(uA)	UART	USCI (UART/SPI/IIC)	ADC(12bit)	PWM @32MHz	LCD/LED Driver	EXT Crystal	CMP
95FW Series	TSSOP20	SC95FW16	64	4	1/2/4/64	1	-	2.0~5.5	32/16/8/4	2.5	1	3	8	12bit*16	-	-	4
	TSSOP28	SC95FW24	64	4	1/2/4/64	1	-	2.0~5.5	32/16/8/4	2.5	1	3	8	12bit*24	-	-	4
	LQFP48	SC95FW40	64	4	1/2/4/64	1	-	2.0~5.5	32/16/8/4	2.5	1	3	16	12bit*40	-	-	4

Non-contact Water Level Detection Flash MCU

Series	PKG Type	P/N	Flash ROM (K Bytes)	RAM (K Bytes)	IAP	BootLoader	EEPROM	Voltage(V)	1%IRC(MHz)	水位检测WL通道 (Max)	UART	USCI (UART/SPI/IIC)	ADC(12bit)	PWM	LCD/LED Driver	产品应用	隔空水位检测性能
92WL Series	SOP16	SC92WL461	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	4	1	1	6	10bit*4	2COM	Two-in-one MCU with Non-contact Water Level+MCU function	3V dynamic CS 10V static CS EFT 4KV
	SOP/TSSOP 20	SC92WL462	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	4	1	1	7	10bit*6	5COM		
	SOP/TSSOP 28	SC92WL463	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	4	1	1	11	10bit*6	5COM		
SC92R425 Series	SOP8	92R425M08	16	2	0/1/2/16	0/1/2/4	1K	2.0~5.5	32/16/8/2.66	4	1	1	1	-	-	Two-in-one MCU with Non-contact Water Level TK+MCU features linear water level detection	3V dynamic CS 10V static CS EFT 4KV
	SOP16	92R425M16	16	2	0/1/2/16	0/1/2/4	1K	2.0~5.5	32/16/8/2.66	4	1	1	6	10bit*4	2COM		
	SOP20	92R425M20	16	2	0/1/2/16	0/1/2/4	1K	2.0~5.5	32/16/8/2.66	4	1	1	7	10bit*6	5COM		
	SOP28	92R425M28	16	2	0/1/2/16	0/1/2/4	1K	2.0~5.5	32/16/8/2.66	4	1	1	11	10bit*6	5COM		

003 Series

Series	PKG Type	P/N	Flash ROM (K Bytes)	RAM (K Bytes)	IAP(K Bytes)	BootLoader	EEPROM	Voltage(V)	1%IRC(MHz)	Ipd(uA)	UART	SSI (UART/SPI/IIC)	ADC(12 bit)	PWM(图阵)	LCD/LED Driver	EXT Crystal	CMP
8003	TSSOP/QFN 20	SC92F8003B	16	1	0/0.5/1/16	-	128B	2.4~5.5	16/8/4/1.33	<1	1	1	8	10bit*7	-	2-16M	-

Non-contact Water Level Detection Standard Product Series

Series	PKG Type	Water Level Detection Channel(Max)	low-power	communication interface	sensitivity	sensitivity	Function Description	LED	Water level detection performance
SCW8916B	SOP16	Fourth Gear	No	Electric level/UART	online/EEPROM tuning	online/EEPROM tuning	4-speed water level detection	-	3V dynamic,10V static CS 6KV ESD、4KV EFT

Standard Touch Key Product Series

Series	PKG Type	TK quantity (Max)	low-power	communication interface	Single kEY tuning	Drive dot matrix number (Max)	LED Driver Bit segment	Function Description	Touch Key performance
SCT81S28	SOP28/TSSOP28	23	No	UART/IIC	Online tuning	132	8*8/6*10/ 5*11/4*12	Standard LED driver, touch button	10V dynamic CS EFT 4KV ESD 8KV
SCT81S20	SOP20/TSSOP20	14	Yes	UART/IIC	Online tuning	-	-	Standard low powerconsumption, touch buttons	12Key@3.3V Is12uA

Electronic Lock Standard Series

Series	PKG Type	TK number (Max)	low-power	communication interface	Support communication rate	Function Description	MCU performance
SC92R442	QFN24	14	14Key@5V 500ms I≤12uA	Hardware IIC	50~400K	Standard Low-Power Touch Key	3V dynamic,10V static CS
SC92R442B	QFN24	14	14Key@5V 500msI≤12uA	Software IIC	0~50K	Standard Low-Power Touch Key	3V dynamic,10V static CS

> Performance parameter

> Quality Parameters

MTTF:

For non-repairable systems, the Mean Time To Failure (MTTF) refers to the average working (or storage) time or number of operations before the system fails.

Performance of SinOne MCU products

MTTF（Mean time to failure）87600 hours（More than 10 years of life）

EMS:

EMS (Electromagnetic Susceptibility) refers to the ability of a device or equipment to operate without being affected by the surrounding electromagnetic environment. EMS tests mainly include RS, CS, ESD, EFT, surge, DIP/i, and PMS. Key test items related to MCU include: ESD, EFT, and CS.

Performance of SinOne MCU products

ESD: MIL-STD-883J Class 3A（8KV）
EFT: EN 61000-4-4 Level 4（4KV）
CS: EN 61000-4-6 Level 3（10V dynamic）

EMI:

EMI (Electromagnetic Interference) describes the degree to which a product emits electromagnetic radiation that may interfere with other electronic or electrical products in its surrounding environment or within the same electrical environment, affecting their normal operation. EMI includes both conducted interference (CE) and radiated interference (RE), as well as harmonics.

Performance of SinOne MCU products

CE: EN55022 PASS
RE: EN55022 PASS

Latch up：

Latch-Up Effect refers to a low-impedance path created between the power supply (VDD) and ground (GND or VSS) in a CMOS circuit due to the parasitic PNP and NPN bipolar junction transistors interacting with each other. This path causes a large current flow between VDD and GND and forms positive feedback. The large current between VDD and GND does not automatically diminish; it will only be eliminated when the chip is powered off. This phenomenon can potentially damage the chip if severe.

Performance of SinOne MCU products

LATCH-UP: JEDEC EIA/JESD78E CLASS I（200mA）

HTOL：

This test checks the reliability of the product under worst-case conditions. High-temperature testing is used to accelerate potential failures that may occur over time. The Failure In Time (FIT) rate utilizes the operating environment temperature and is calculated using the Arrhenius equation.

Performance of SinOne MCU products

HTOL: JESD22-A103 PASS

Development Platform

Hardware development platform

> Debugger & Programmer

Picture	Tool	Feature	Adapte	Buy
	SC LINK PRO	Online Debug Online Programming Mass Programming (support multi-code) TK Debug Parameter Display	SC92 Series SC93 Series SC95 Series SC32 Series	Taobao Store

> SinOne TK Evaluation Board

No.	Picture	Tool	Feature	Adapte	Buy
1		LB1010-92F8462B LB1210-95F8522 (Spring buttons with 10V Dynamic CS)	1. Spring buttons：3mm acrylic plates： 2. 3-ch TK ：3 LEDs：	SC92F846XB SC92F836XB SC92F837X SC92F827X SC92F848X SC92F636X SC92F841X SC95F852X SC95F857X SC95F867X	Taobao Store
2		LB1011-92F8462B LB1211-95F8522 （Touchless of 3mm）	1. Pad touchless buttons： 3mm acrylic plates： 2. 3-ch TK ：3 LEDs：		
3		LB1012-92F8462B LB1212-95F8522 （Copper PAD）	1. Pad buttons：3mm acrylic plates： 2. 3-ch TK ：3 LEDs：		
4		LB1013-92F8462B LB1213-95F8522 （Plug in Rubber Rings）	1. Rubber buttons：3mm acrylic plates： 2. 3-ch TK ：3 LEDs：		
5		Lb2001 Lb2002 (Development board for pulley and slider evaluation)	1. 6 touch buttons, a set of slider functions 2. 14 LED indicator lights 3. ISP burning interface	SC32F10XX SC32F12XX	

> Proximity Sensing Evaluation Board

Picture	Tool	Feature	Adapte	Buy
	LB1214-95FS521 （Proximity Sensing Evaluation Board）	1. A channel of Proximity Sensing 2. Sensing distance up to 15cm 3. Replacing the traditional infrared detectio	SC95FS52X	Taobao Store

> Water–Level Detection Evaluation & Development Board

Picture	Tool	Feature	Adapte	Buy
	LB1017-92R425 (Step-Based Water-Level Detection Evaluation Board) LB1018-92R425 （Proportional Water-Level Detection Evaluation Board）	1. Supports 4-step water-level detection and up to 100-level proportional water-level detection 2. Water-level indication LEDs 3. UART interface for data debugging	SC92R425	Taobao Store

> Electronic lock Board

Picture	Tool	Feature	Adapte	Buy
	LB1101 (92L Electronic Door Lock Evaluation Development Board)	1.12 capacitive touch buttons, standby current <10μA 2.Battery-powered, supports power consumption testing 3.Adaptive algorithm	SC92L8532	Taobao Store

> QSPI Function Evaluation Board

Picture	Tool	Feature	Adapte	Buy
	EBK2004 (QSPI Color Screen Evaluation Board)	1. 4.3寸 480*272 Color screen 2. Touch Key touch button 3. External 64M FLASH	SC32R803 SC32F11XX	Taobao Store

> SinOne NBK Series Core Development Board

Picture	Tool	Feature	Adapte	Buy
	NBK1220 (Core development board –SC95F8617B)	1. Supports connection to expansion boards and Arduino interfaces 2. Support ISP programming	SC95F861xB SC95F761xB SC95F876x SC95F776x	Taobao Store
	NBK2001 (Core development board –SC32F10)		SC32F10xx	
	NBK2002 (Core development board –SC32F12)		SC32F12xx	
	NBK-EBS003 (IOT expansion board)	1. OLED display 2. WIFI communication module 3. Touch buttons, slider	SC95F861xB SC95F761xB SC95F876x SC95F776x SC32F10xx SC32F12xx	
	NBK-EBS004 (TFT screen expansion board)	1. TFT display 2. External FLASH 3. Touch buttons	SC32F10xx SC32F12xx	

Software Development Platform

EasyCodeCube

> About EasyCodeCube

Traditional MCU Development Process

Chip replacement

Long development cycle, high threshold
Complex software tools, low efficiency
Difficult maintenance and porting, high cost

Step1 — Website & Guide — Model comparison

Step5 — Separate host computer — Manually export program

Project start → Product selection → Initialization configuration → TK debugging → Code writing → Compilation and burning → Project completion

Familiarize with specifications
Create header files
Call BSP
Step2 — Resource configuration

Static debugging
Parameter generation & import
Step3 — Development & testing

Familiarize with registers
Complex code porting
Step4 — Structure check

EasyCodeCube = Selection tool + Graphical configuration + Visual TK debugging + Flowchart programming + Compiler burner ...

MCU Development Process By EasyCodeCube

EasyCodeCube is a software development platform characterized by graphical development environments and flowchart-based programming. Engineers can quickly complete project development without needing to study the MCU specifications: Complete the entire project with a single software - Initialization configuration in 5 minutes - Connect IoT devices to the cloud in 5 minutes - Complete touch debugging in 5 minutes.

> Function Framework of EasyCodeCube

Platformization
· Modular Functionality
· Easy Code Porting

Product Ecology
- Product library
- BSP
- Demo

Development ecology
- Graphical configuration
- Flowchart-based programming
- Zero-code TK debugging

High Development Efficiency
· No focus on low-level code
· Automated generation of standard code

EasyCodeCube

Comprehensive Toolchain
· One tool for all project management

Tool ecosystem
- Compilation simulation
- SmartDriver
- Project Programming

Development ecology
- IoT examples
- Driver sharing
- Example sharing

Openness
· Open resources
· Application frameworks

> EasyCodeCubeFeature Demonstrations

1. Configure all resource of MCU in one click, and multiplexing function is mutually exclusive to avoid confrontations.
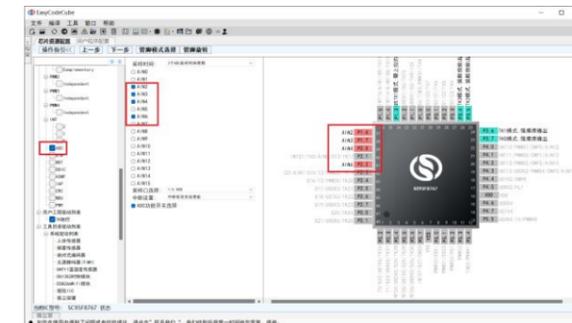
2. Supports easily programing with clear software architecture as you can draw flowcharts, which making project management review simpler.
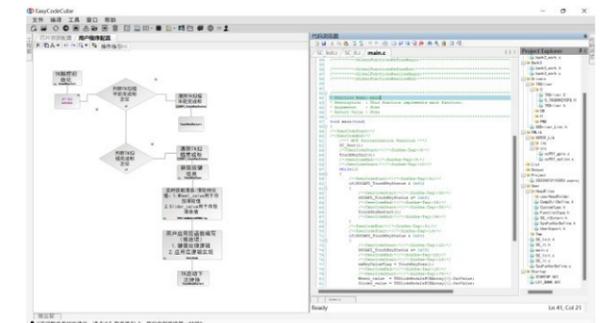
3. Integrates development controls of IOT allows no-experience engineers complete a device and connect the cloud in 5 minutes.
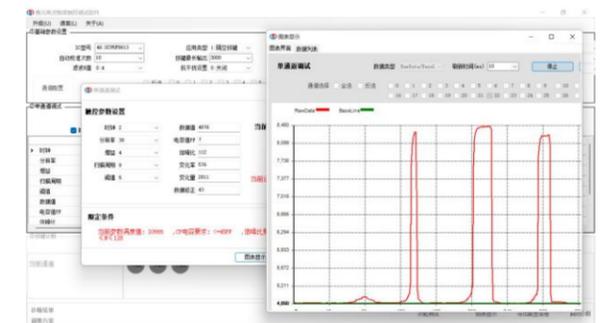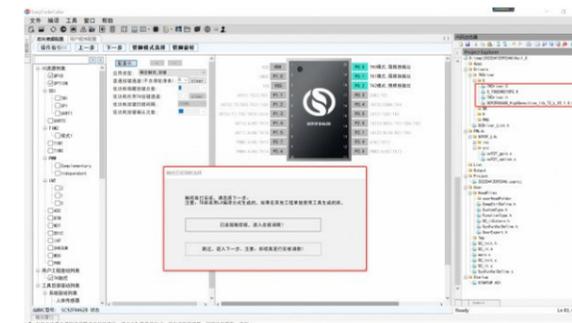
4. Complete example projects of IOT and detailed instructions.
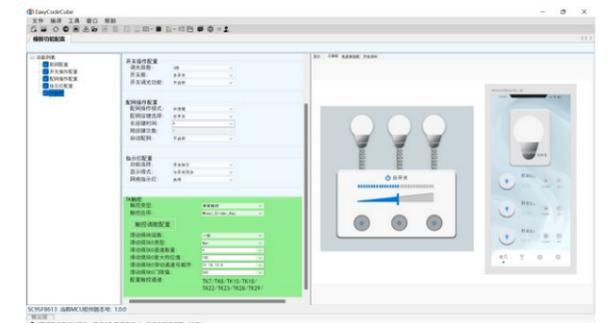
Download: www.socmcu.com
Please feel free to contact us if you have any problems.

Innovative technology

> OTA Solutoin

Introduction

Various hardware resources of SinOne MCU provide reliability and convenience for OTA implementation. Based on SinOne Flash MCU and its software ecosystem, offer a high-security, low-development OTA solution that helps users easily achieve device version updates, feature iterations, and vulnerability fixes.

APROM

APP Code Area

Code Backup Area

LDROM

Bootloader

①Update commands

③Update program

②Firmware download
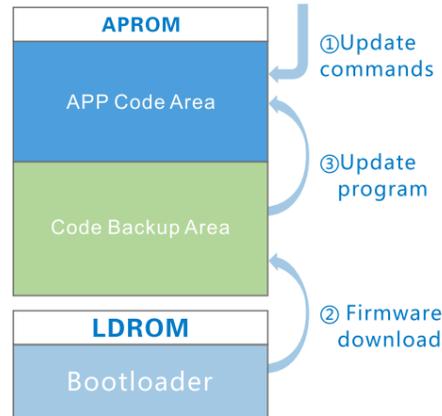
APP区
· APP Service Operation
· Upgrade Command Reception

Buffer区
· Upgrade File Storage

APP区
· Manage application programs, implement program jumps
· Communication connection, package download
· Copy backup area programs to the running area, upgrade device firmware

Technical Features

1.Hardware Bootloader: Independent LDROM area, supports permission settings, write-protection.

2.Large Resources: 256K/128K/64K/32K Flash ROM, A/B dual-zone backup.

3.High Security: Logical partitioning, dual-zone backup, CRC checksum, data encryption.

4.Low Development: EasyCodeCube, OTA SDK, can be directly invoked, no need to focus on the underlying layers.

> AI Adaptive Touch Technology

Introduction

AI-adaptive Touch Technology , based on SinOne TK MCU, autonomously adapts to changes in product panel thickness, environmental temperature, humidity, and learns user interaction habits to deliver an exceptional touch experience.

Fully-Automatic AI-adaptive Algorithm: Parameter and Threshold Self-Adaptation

Parameter Adaptation
Threshold Adaptation

Sensitivity Adaptation

User Experience Innovation
Adapts to learn different user habits
Adapts to different environments
Adapts to different products

Development requires no debugging, configuration is ready for use

Production requires no debugging, resolves assembly and overall system impact issues

Technical Features

1.High-sensitivity touch circuit, high SNR of 100, high resolution of 0.1pF

2.Free use of SinOne AI-adaptive Touch Solution with proprietary patented technology

3.No-debugging required for touch product development, plug-and-play ready

4.Improves product yield, significantly reduces assembly complexity, and autonomously compensates for air gaps

5.Strong environmental adaptability, autonomously learns and remembers user interaction habits

6.High anti-interference: EFT 4KV, dynamic CS of 10V

7.Lower development and production costs, lower touch development threshold, and reduced touch development workload

Lb1101 Board

> Over-air gap Touch Technology

Introduction

SinOne's TK MCU incorporates a high-sensitivity touch circuit, support Over-air gaptechnology that can replace traditional spring touch methods, allowing a 3mm air gap between the button panel and the PCB. This technology can meet the needs of micro-curved surfaces, ultra-thick panels, and glove-operated applications, significantly reducing product manufacturing complexity and improving production yield.

Traditional Spring Solution

3mm Over-air gapSolution

3mm air
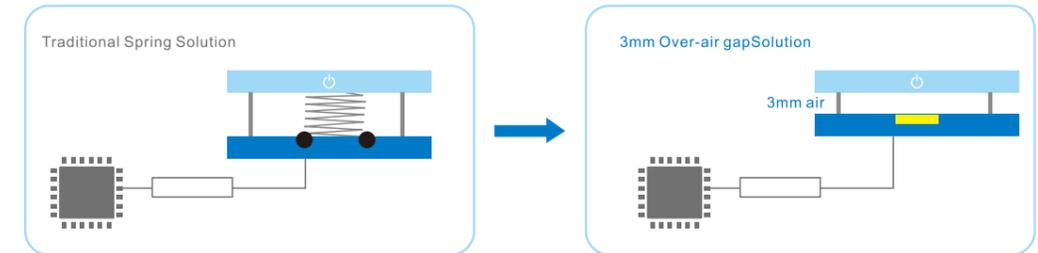
Technical Features

1.High SNR of 100, high resolution of 0.1pF

2.High anti-interference: EFT 4KV, 3V Dynamic CS

3. Over-air gap Touch: Allows a 3mm gap between the panel and PAD

4.High Integration: MCU + Touch + LED Display in one, up to 31 TK channe...

5.Cost-down: Eliminates springs, simplifies processes, and avoids solderi...

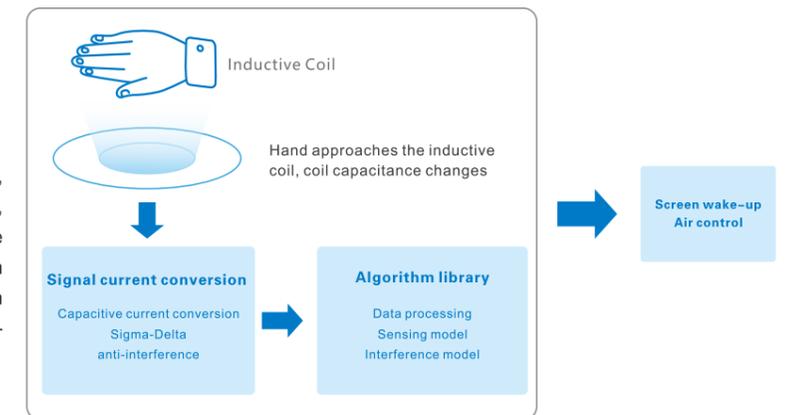6.Optimized Experience: Eliminates assembly impacts

Lb1011 Air Touch Evaluation Board

> Two-in-one MCU with Proximity Sensing and TK

Introduction

Utilizing SinOne capacitive sensing technology, itenables non-contact proximity sensing control, detecting human movements in the air to facilitate human-machine interaction. It supports touch combination schemes and low-power operation modes, making it widely applicable in human-machine interaction, object detection, and more.

Inductive Coil

Hand approaches the inductive coil, coil capacitance changes

Signal current conversion
Capacitive current conversion
Sigma-Delta
anti-interference

Algorithm library
Data processing
Sensing model
Interference model

**Screen wake-up
Air control**

Technical Features

1.Proximity Sensing + TK integrated on one MCU

2.Sensing distance up to 15cm, response time as low as 50ms

3.Supports low-power modes, enhancing user experience with wake-up on screen-off

4.High Quality: ESD IEC 61000-4-2 Class 3A

5.Product Structure Upgrade: No need for holes, integrated body design
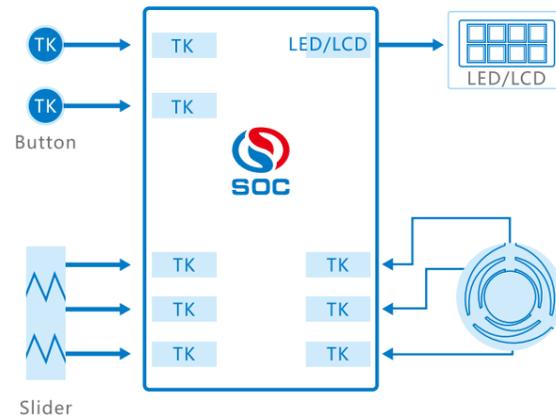
Proximity Sensing Evaluation Board

> Wheel and slider technology

Introduction

Utilizing SinOne's capacitive touch technology, this replaces traditional potentiometer adjustment schemes, integrating touch buttons, wheels, and sliders to achieve continuous control, suitable for dimming, speed adjustment, volume control, and more.

Button

Slider

Technical Features

1.Button + Slider + Wheel Three-in-One

2.Three channels for 256-step continuous adjustment

3.Current less than 30μA in low-power mode

4.Waterproof, high anti-interference, anti-misoperation

5.ESD 8KV, EFT 4KV, 10V CS

6.Zero-threshold development with graphical debugging interface

7.Product Structure Upgrade: Integrated body design, no need for holes

Lb1213 Board

> Two-in-one MCU with Non-contact Water Level Detection and TK

Introduction

Non-contact water level detection, which does not pollute the water, is corrosion-resistant, and has a long lifespan. This technology also integrates touch functionality, with a simple structure and easy production.
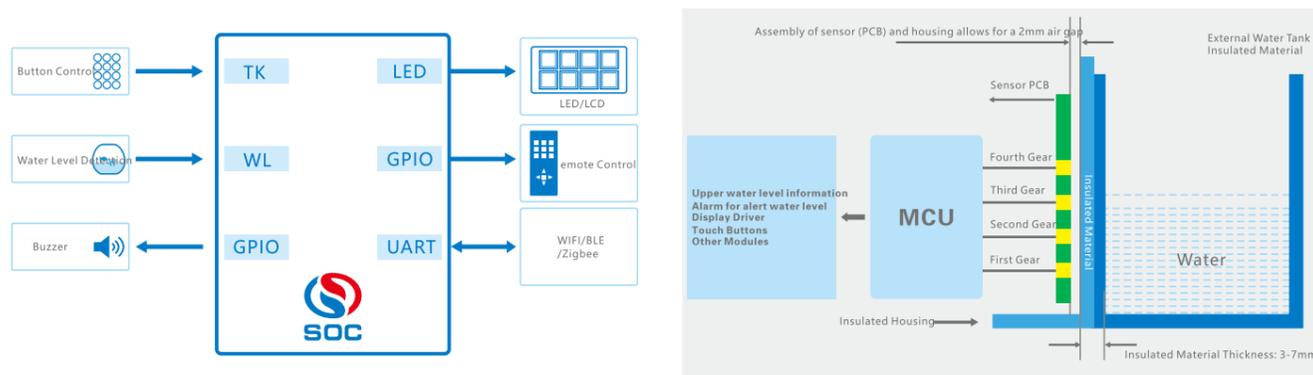
Technical Features

1. High integration: MCU+ touch +LED display + water level detection in one

2. No contact with water, up to four levels of water level detection, self-adapting to environmental changes

3. Super anti-jamming: EFT 4KV, 10V dynamic CS

4. Product structure is simple, easy to assemble, stable and reliable5. Reduce product cost: save reed tube/Hall device

Lb1014 Board

> Low Power Touch Technology

Introduction

SinOne low-power touch technology is derived from advancements in process technology and circuit design. It supports multiple low-power modes, enabling the chip to switch between them based on state judgments and channel parallel scanning. This allows the chip to maintain a relatively low standby current for the majority of the time without compromising performance, providing the highest energy efﬁciency ratio. In smart lock products, it can achieve any key wake-up with only 12 keys, and the standby current is less than 10uA. This solution is suitable for battery-powered touch applications.

Technical Features

1.Wide operating voltage: 1.8V to 5.5V, Stop current as low as 1.1μA, 3mA@16MHz

2.32K Flash Rom, 4K SRAM

3.Supports OTA upgrades, integrates with cloud platforms

4.Suitable for battery-powered product applications

5.Exceptional interference resistance: EFT 4KV, ESD 8KV, 10V dynamic CS

Lb1101 Board

> Mutual Capacitance Touch Technology

Introduction

Utilizing SinOne mutual capacitance sensing technology, it achieves two-dimensional plane touch control, supporting handwriting recognition, direction recognition, zoom in/out gestures, providing an innovative interactive method.
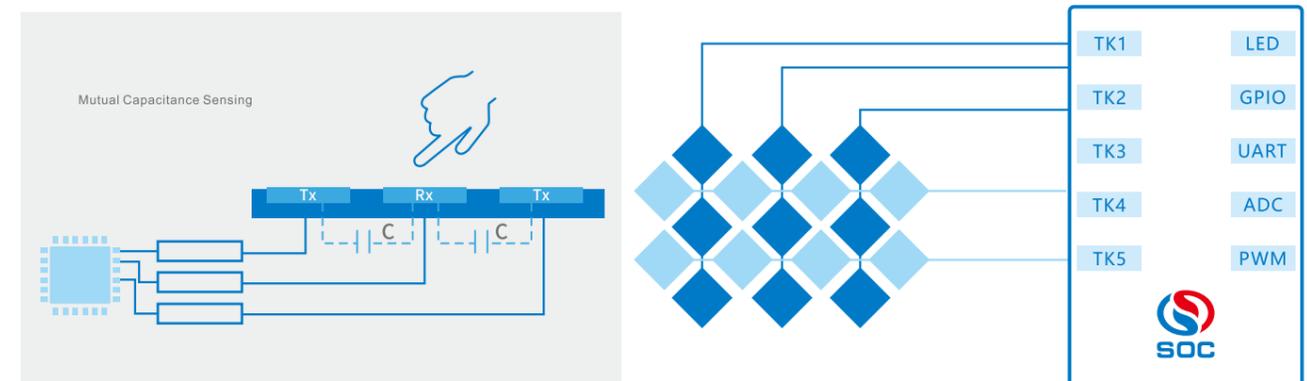
Technical Features

1.Mutual capacitance sensing, supports multi-touch, up to 4 Tx transmit channels, and 27 Rx receive channels

2.High signal-to-noise ratio SNR:100, high resolution: 0.1pF

3.Strong interference resistance: EFT 4KV, 10V CS, waterproof, anti-mistouch

4.Handwriting recognition, direction recognition, multi-point zoom

Innovative application

> White Goods Applications
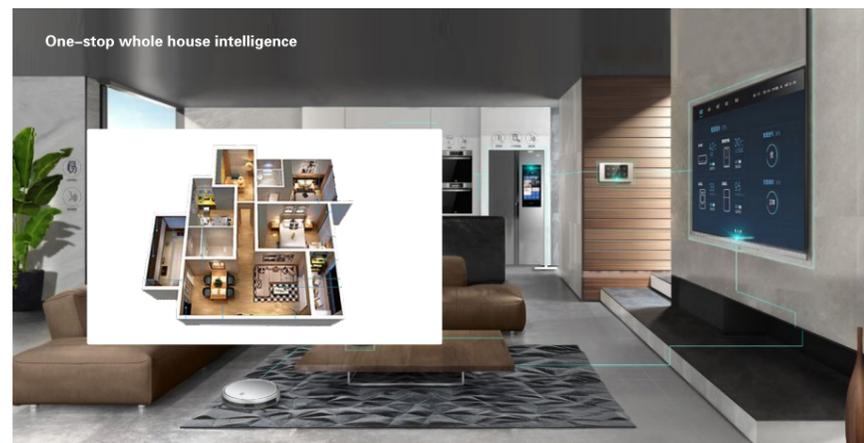
Scene Introduction

SinOne 32-bit ARM series and 8-bit 95F high-performance series are widely used in white goods such as air conditioners, refrigerators, washing machines, etc., due to their high anti-interference performance and rich internal resources. They can be applied to air conditioner control panels, wall-mounted air conditioner main controls, refrigerator touch display panels, power boards, washing machine main control panels, providing reliable solutions for domestic alternatives in white goods.

Range hood control panel
Air conditioner control board
Refrigerator display panel
Air conditioner display panel
Washing machine control panel
Robotic vacuum control panel   Electric oven control panel   Smart toilet control panel

> Whole House Smart Applications

Scene Introduction

SinOne MCU offers a rich range of MCU products and an easy-to-use IoT development platform. A wide array of communication interfaces cater to seamless integration with various wireless and sensor modules. The EasyCodeCube integrated IoT development platform provides abundant IoT BSPs, enabling one-click calls and 5-minute product networking solution development, showcasing its prowess in whole-house smart control.

One–stop whole house intelligence

> Industrial Applications

Scene Introduction

High-performance specifications of SinOne MCU meet stringent industrial application requirements, such as solar energy, inverters, energy storage, robots, contactless elevator buttons, smart logistics, smart cities, etc. This breaks the monopoly of foreign brands and excellent performance assists customers in completing domestic replacements.
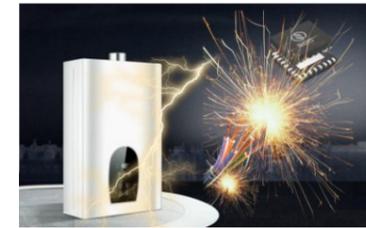

Solar inverters

Contactless elevator buttons

> Thermal products applications

Scene Introduction

Thermal products with built-in electronic igniters have particularly strict requirements for the main control MCU's performance. It needs to withstand the scanning of the gas igniter without freezing or resetting.

Gas water heater

Gas stove

> Automotive Applications

Scene Introduction

The High-performance touch and proximity sensing technologies of SinOne offer various innovative applications for the automotive industry. The product's high reliability has gained customer recognition, becoming a part of intelligent cockpits.

Touch-sensitive overhead lights

Joystick-controlled electric seat adjustment

Proximity sensing automatic door handles