

SyncMOS MCU Selection Guide

SM59RXX 系列 (RISC 1T/2T)																				
Part No.	VCC	Speed	FLASH	RAM Size	I/O Pin	Package	EEPROM	SPI	IIC	UART	ISP&ICP	WDT	Power Down Wake-Up	OPA	PCA	PWM	ADC	EEI&KBI	RTC&MDU	Special Function
SM59R02A1	3.0/5	25MHZ	8KByte	256+1KByte	36/40/44	P/J/Q/V	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R03A1	3.0/5	25MHZ	12KByte	256+1KByte	36/40/44	P/J/Q/V	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R04A1	3.0/5	25MHZ	16KByte	256+1KByte	36/40/44	P/J/Q/V	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R04A2	3.0/5	25MHZ	16KByte	256+1KByte	36/40/44	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R08A2	3.0/5	25MHZ	32KByte	256+2KByte	48	W/U	Yes	Yes	Yes	X2	ISP/ICP	Yes(2)	Reset/INT/ KBI		16bit	4ch 12/16bit	4ch10bit	8ch EEI	MDU	Dual DPTR/ICE
SM59R16A2	3.0/5	25MHZ	64KByte	256+2KByte	48	W/U	Yes	Yes	Yes	X2	ISP/ICP	Yes(2)	Reset/NT/ KBI		16bit	4ch 12/16bit	4ch10bit	8ch EEI	MDU	Dual DPTR/ICE
SM59R05A3	3.0/5	25MHZ	20KByte	256+2KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R09A3	3.0/5	25MHZ	36KByte	256+2KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R16A3	3.0/5	25MHZ	64KByte	256+2KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI		16bit	4ch 10/16bit	8ch10bit	8ch KBI	MDU	Dual DPTR/ICE
SM59R05A5	3.0/5	25MHZ	20KByte	256+2KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/INT/WDT/KBI/LVI/RTC	Yes	16bit	4ch 10/16bit	8ch10bit	8ch KBI	RTC/MDU	Dual DPTR/ICE
SM59R09A5	3.0/5	25MHZ	36KByte	256+2KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/INT/WDT/KBI/LVI/RTC	Yes	16bit	4ch 10/16bit	8ch10bit	8ch KBI	RTC/MDU	Dual DPTR/ICE
SM59R16A5	3.0/5	25MHZ	64KByte	256+2KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X2	ISP/ICP	Yes	RST/INT/WDT/KBI/LVI/RTC	Yes	16bit	4ch 10/16bit	8ch10bit	8ch KBI	RTC/MDU	Dual DPTR/ICE
SM59R05G6	2.7-5.5	25MHZ	20KByte	256+1KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI		16bit	4ch 10/16bit				Dual DPTR/ICE
SM59R09G6	2.7-5.5	25MHZ	36KByte	256+1KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI		16bit	4ch 10/16bit				Dual DPTR/ICE
SM59R16G6	2.7-5.5	25MHZ	64KByte	256+1KByte	38/42/46	P/J/Q/V	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI		16bit	4ch 10/16bit				Dual DPTR/ICE

SM39RXX 系列 (RISC 1T-8T, Low Pin Count)																				
Part No.	VCC	Speed	FLASH	RAM Size	I/O Pin	Package	EEPROM	SPI	IIC	UART	ISP&ICP	WDT	Power Down Wake-Up	OPA	PCA	PWM	ADC	KBI	Special Function	
SM39R02G1	2.7-5.5	25MHZ	2KByte	256Byte	12	N/O	Yes		Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI							Dual DPTR/ICE
SM39R04G1	2.7-5.5	25MHZ	4KByte	256Byte	8/12	N/O/M	Yes		Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI							Dual DPTR/ICE
SM39R2051	2.7-5.5	25MHZ	2KByte	256Byte	18	N/S	Yes		Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI							Dual DPTR/ICE
SM39R4051	2.7-5.5	25MHZ	4KByte	256Byte	18	N/S	Yes		Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ LVI							Dual DPTR/ICE
SM39R08A2	2.7-5.5	25MHZ	8KByte	256Byte	18-26	N/S/K	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI	Yes	16bit	2ch 10/16bit	8ch10bit	4-ch KBI		Dual DPTR/ICE
SM39R12A2	2.7-5.5	25MHZ	12KByte	256Byte	18-26	N/S/K	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI	Yes	16bit	2ch 10/16bit	8ch10bit	4-ch KBI		Dual DPTR/ICE
SM39R16A2	2.7-5.5	25MHZ	16KByte	256Byte	18-26	N/S/K	Yes	Yes	Yes	X1	ISP/ICP	Yes	RST/ INT/ WDT/ KBI/ LVI	Yes	16bit	2ch 10/16bit	8ch10bit	4-ch KBI		Dual DPTR/ICE

SM59XX 系列 (12T)																
Part No.	VCC	Speed	FLASH	RAM Size	I/O Pin	Package	TWSI	UART	ISP	WDT	Power Down Wake-Up	SPWM	PWM	ADC	RTC	Special Function
SM5964A	3.3/5	25/40MHZ	64KByte	256+768 Byte(1)	32/36	P/J/Q	Yes	X1	ISP		Reset/ INT		2-ch (5,8)bit			VESA DDC/CI
SM5964	5	40MHZ	64kByte	256+768 Byte	32/36	P/J/Q		X1	ISP	Yes(2)	Reset		5-ch (5,8)-bit			
SM59264	5	40MHZ	64+64KB(D)	256+768 Byte(1)	32/36	P/J/Q	Yes	X1	ISP	Yes	Reset		4-ch (5,8)-bit			VESA DDC/CI
SM59128	5	40MHZ	128KByte	256+768 Byte(1)	32/36	P/J/Q	Yes	X1	ISP	Yes	Reset		4-ch (5,8)-bit			VESA DDC/CI

SM79XX 系列 (12T)																
Part No.	VCC	Speed	FLASH	RAM Size	I/O Pin	Package	UART	WDT	Power Down Wake-Up	SPWM	PWM	ADC	RTC	Special Function		
SM79108	3.3/5	40MHZ	8KByte	256Byte	32/36	P/J/Q	X1	Yes	Reset		1-ch (5,8)-bit	1-ch (5,8)bit	4-ch 8bit	LCDD 4X14		
SM79164	3.3/5	25/40MHZ	64KByte	256+3840B(1)	32/36	P/J/Q	X1	Yes	Reset		8-ch (5,8)bit					

SM89XX 系列 (12T)																
Part No.	VCC	Speed	FLASH	RAM Size	I/O Pin	Package	UART	WDT	Power Down Wake-Up	SPWM	PWM	ADC	RTC	Special Function		
SM894051	3.3/5	25MHZ	4KByte	128Byte	15	20P/S	X1	Yes(2)	Reset					LED Drive sink 20mA		
SM8951A/52A	3.3/5	40MHZ	4/8KByte	256Byte	32/36	P/J/Q	X1	Yes(2)	Reset							
SM8954A/58A/516A	3.3/5	40MHZ	16/32/64KB	256+768 Byte(1)	32/36	P/J/Q	X1	Yes	Reset		5-ch (5,8)-bit					
SM89516	3.3/5	25MHZ	64KByte	256+768 Byte	32/36	P/J/Q	X1	Yes(2)	Reset							
SM89S16R1	3.3/5	40MHZ	64KByte	256+768 Byte(1)	32/36	P/J/Q	X1		Reset/ RTC/ INT		2-ch (5,8)bit	4-ch 6bit	RTC			

(1): Expanding RAM is default disable
 (2): WDT Clock is from External Xtal
 WDT Clock is from Internal Xtal define 250KHz (without (2))
 IIC = TWSI = Two-Wire Series Interface
 EX_INT = External Interrupt Wake-Up

ADC = Analog and Digital Converter (類比數位轉換器)
 KBI=Keyboard Interface=EEI (擴充外部中斷)
 RTC = Real Time Clock (時鐘裝置)
 MDU=Multiplication-Division unit (硬件乘除法器)
 PCA=Programmable Counter Array (16bit Timer 2)
 =capture、compare、clock out、16bit PWM

SM59R16A5ihhKL
 yymm v (yy: year ,mm: month ,v: version)
 i: process (L: 3.3V C: 5V W:2.7-5.5)
 hh: Max Speed (Before SM59RxxG6) or Pin Count (After SM39R & SM59RxxG6)
 k: package type
 { J:44(PLCC) M:10(MSOP) N:14/20/24(PDIP) O:14(SOP) P:40(PDIP) Q:44(QFP) U:64(LQFP) V:48(LQFP) }
 { W:64(TQFP) S:20/24/28(SOP) K:20/24/28(Skinny PDIP) }
 L:PB Free {No text is Non-PB Free, "P" is PB Free}