SyncMOS MCU Selection Guide

SyncMOS

Series	Function	Part No.	VCC	Speed (MHz)	ROM (KByte)	RAM (Byte)	EEPROM	I/O Pins	PACKAGE	SPI	IIC	UART	ISP&ICP	WDT	OPA &CMP	PCA (bit)	USB	ADC (ch , bit)	KBI (ch)	IRC	ICE	Machine Cycle	PWM (ch , bit)	PWM-Motor (ch , bit)	PWR Down WakeUp	Function
OB37R	OTP	OB37R04G1	2.4~5.5	24	4	128	-	8/12/14	M/N/O	-	-	-	-	Y(3)	-	-	-	-	4	Y	-	1T~8T	-	-	1/2/3/4/5/7	OTP, P0 High Drive&Sink
		OB37R04A1	2.4~5.5	12	4	128	-	8/12/14	M/N/O	-	-	-	-	Y(3)	-	16	-	8 , 10	4	Y	-	1T~8T	-	-	1/2/3/4/5/7	OTP, P0 High Drive&Sink
		OB37R259A	2.4~5.5	12	4	128	-	12/14	M/N/O	-	-	-	-	Y(3)	-	16	-	8 , 10	4	Y	-	1T~8T	-	-	1/2/3/4/5/7	OTP, P0 High Drive&Sink
OB39A	LCD & RTC	OB39A16D1	2.2~5.5	22.1184	16	256+256	Y	39	V	1	1	-	ICP	Y(1)	2CMP	16	-	7 , 10	4	*Y	Y	1T~8T	4 ,16	-	1/2/3/5/6/7	27x4 LCD,RTC,High Drive&Sink
		OB39A16D2	2.2~5.5	22.1184	16	256+256	Y	39	V	1	1	1	ICP	Y(1)	-	16	-	7 , 10	4	*Y	Y	1T~8T	4 ,16	8 , 14	1/2/3/5/7	27x4 LCD,RTC,High Drive&Sink
	Touch	OB39A16T1	2.2~5.5	22.1184	16	256+512	Y	13/17/21/25/29	S/O/V	-	1	1	ISP/ICP	Y(1)	-	16	-	-	-	*Y	Y	1T~8T	4 , 16	-	2/3/5/7	MDU, 24-ch touch key
		OB39A08T1	2.2~5.5	22.1184	16	256	Y	13/17/21/25/29	S/O/V	-	1	1	ISP/ICP	Y(1)	-	16	-	-	-	*Y	Y	1T~8T	4 , 16	-	2/3/5/7	MDU, 24-ch touch key
		OB39A08T2	2.2~5.5	22.1184	16	256	Y	21/25	S	-	1	1	ISP/ICP	Y(1)	-	16	-	5 , 10	-	*Y	Y	1T~8T	2 , 16	-	2/3/5/7	MDU, 17-ch touch key
OB93	Touch Sensor	OB93TS06	2.2~5.5	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6-ch touch key
		OB93TS08	2.2~5.5	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8-ch touch ley
		OB93TS12	2.2~5.5	-	-	-	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12-ch touch key
		OB93TS22	2.2~5.5	-	-	-	-	-	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22-ch touch key
SM59A	USB	SM59A16U1	2.2~5.5	25	64	256+6K	Y	38	V	1	1	2	ISP/ICP	Y(3)	2	16	2.0	8 , 10	8	*Y	Y	1T/2T	4 ,16	8 , 14	1/2/3/4/5/7	DMA(ADC), MDU
SM59R	General	SM59R04A2	3.0/5	25	16	256+1K	Y	36~44	P/J/Q/V	1	1	2	ISP/ICP	Y	-	16	-	8 , 10	8	Y	Y	1T/2T	4 ,10/16	-	1/2/3/4/5	MDU
		SM59R05G6	2.7~5.5	25	20	256+1K	Y	38~46	P/J/Q/V	1	1	1	ISP/ICP	Y	-	16	-	-	-	*Y	Y	1T/2T	4 ,10/16	-	1/2/3/5	-
		SM59R09G6	2.7~5.5	25	36	256+1K	Y	38~46	P/J/Q/V	1	1	1	ISP/ICP	Y	-	16	-	-	-	*Y	Y	1T/2T	4 ,10/16	-	1/2/3/5	-
		SM59R16G6	2.7~5.5	25	64	256+1K	Y	38~46	P/J/Q/V	1	1	1	ISP/ICP	Y	-	16	-	-	-	*Y	Y	1T/2T	4 ,10/16	-	1/2/3/5	-
		SM59R02G1	2.7~5.5	25	8	256	Y	38/42	P/J/Q/V	-	-	1	ISP	Y	-	16	-	-	-	*Y	Y	1T/2T	4 ,16	-	1/2/3/7	-
	General & RTC	SM59R05A5	3.0/5	25	20	256+2K	Y	38~46	P/J/Q/V	1	1	2	ISP/ICP	Y	2	16	-	8 , 10	8	Y	Y	1T/2T	4 ,10/16	-	1/2/3/4/5/6	RTC/MDU
		SM59R09A5	3.0/5	25	36	256+2K	Y	38~46	P/J/Q/V	1	1	2	ISP/ICP	Y	2	16	-	8 , 10	8	Y	Y	1T/2T	4 ,10/16	-	1/2/3/4/5/6	RTC/MDU
		SM59R16A5	3.0/5	25	64	256+2K	Y	38~46	P/J/Q/V	1	1	2	ISP/ICP	Y	2	16	-	8 , 10	8	Y	Y	1T/2T	4 ,10/16	-	1/2/3/4/5/6	RTC/MDU
SM39A	Motor	SM39A16M1	1.8~5.5	25	16	256+1K	Y	26/30	S/V	1	1	1	ISP/ICP	Y(3)	3CMP	16	-	8 , 10	-	*Y	Y	1T~8T	4 ,16	8 , 14	1/2/3/5/7	MDU, P0 High Drive&Sink
SM39R	General	SM39R04G1	2.7~5.5	25	4	256	Y	8/12	M/N(14)/O	-	1	1	ISP/ICP	Y	-	-	-	-	-	Y	Y	1T~8T	-	-	1/2/3/5	-
		SM39R4051	2.7~5.5	25	4	256	Y	18	20(N/S)	-	1	1	ISP/ICP	Y	-	-	-	-	-	Y	Y	1T~8T	-	-	1/2/3/5	-
		SM39R08A2	2.7~5.5	25	8	256	Y	26	S/K/G	1	1	1	ISP/ICP	Y	2	16	-	8 , 10	4	*Y	Y	1T~8T	2 ,10/16	-	1/2/3/4/5	-
		SM39R16A2	2.7~5.5	25	16	256	Y	26	S/K/G	1	1	1	ISP/ICP	Y	2	16	-	8 , 10	4	*Y	Y	1T~8T	2 ,10/16	-	1/2/3/4/5	-
		SM39R08A3	1.8~5.5	25	9	256+256	Y	12~18	N/S/G/O	1	1	1	ISP/ICP	Y(3)	2CMP	16	-	7 , 10	4	*Y	Y	1T~8T	4 ,10/16	-	1/2/3/4/5/7	High Drive&Sink
		SM39R16A3	1.8~5.5	25	16	256+256	Y	8~18	N/S/G/O/M	1	1	1	ISP/ICP	Y(3)	2CMP	16	-	7 , 10	4	*Y	Y	1T~8T	4 ,10/16	-	1/2/3/4/5/7	High Drive&Sink
		SM39R08A5	1.8~5.5	22.1184	8	256	Y	8	M	-	1	1	ICP	Y(3)	1CMP	-	-	8 , 10	-	*Y	Y	1T~8T	4, 10	-	1/2/3/5/7	High Drive&Sink
		SM39R16A6	1.8~5.5	25	16	256+1K	Y	22/26/30	S/V	1	1	1	ISP/ICP	Y(3)	-	16	-	8 , 10	-	*Y	Y	1T~8T	4 ,14/16	-	1/2/3/5/7	MDU, High Drive&Sink
SM59	General	SM5953	2.4~5.5	24/40	15	256	Y	32	P/J/Q	-	-	1	ISP	Y(2)	-	-	-	-	-	-	-	6/12T	-	-	1	-
		SM5964B	2.4~5.5	24/40	64	256+768	Y	32/36	P/J/Q	-	(TWSI)	1	ISP	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-
		SM5958	2.4~5.5	24/40	32	256+768	Y	32/36	P/J/Q	-	(TWSI)	1	ISP	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-
		SM5952E	2.4~5.5	24/40	8+4	256+768	Y	32/36	P/J/Q	-	(TWSI)	1	ISP	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-
		SM5954	2.4~5.5	24/40	16+4	256+768	Y	32/36	P/J/Q	-	(TWSI)	1	ISP	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-
SM89	General	SM8952B	2.4~5.5	24/40	8	256	-	32	P/J/Q	-	-	1	-	Y(2)	-	-	-	-	-	-	-	6/12T	-	-	1	-
		SM8954B	2.4~5.5	24/40	16	256+768	-	32/36	P/J/Q	-	(TWSI)	1	-	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-
		SM8958B	2.4~5.5	24/40	32	256+768	-	32/36	P/J/Q	-	(TWSI)	1	-	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-
		SM89516B	2.4~5.5	24/40	64	256+768	-	32/36	P/J/Q	-	(TWSI)	1	-	Y(2)	-	-	-	-	-	-	-	6/12T	2 ,5/8	-	1/2	-

(1) Expanding RAM is default disable
(2) WDT Clock from External X'tal
WDT Clock from Internal 250KHz (without (2))
(3) WDT Clock from Internal 20KHz and support period interrupt
IIC =TWSI =Two-Wire Series Interface
EX_INT=External Interrupt Wake-Up
IRC: Internal Oscillator (* apply UART)
Power Down Wake up →1.RST, 2.INT, 3.WDT, 4.KBI , 5.LVI , 6.RTC , 7. WDT(INT)

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
PWM-M=PWM for Motor Control

SM59R16A5ihhkL
i: process (L: 3.3V C: 5V W:2.7~5.5 U:1.8~5.5)
hh: Max Speed (Before SM59RxxG6) or Pin Count (After SM39R & SM59RxxG6)
k: package type { J:44(PLCC) M:10(MSOP-118mil) N:10/14/16/20/24/28(PDIP-300mil) O:14/16(SOP-150mil) P:40(PDIP) Q:44(QFP) U:64(LQFP) V:48/32(LQFP) W:64(TQFP) S:20/24/28(SOP-300mil) K:24/28(Skinny PDIP-300mil) G:20/24/28(SSOP-150mil)
L:PB Free {No text is Non-PB Free, "P" is PB Free}