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Philips Microcontroller Product Overview - Edition 12/2003

Happy Holidays!

Type	Production	Memory: RAM	Flash	Sectors	Width	PP / ISP / IAP?	Timers: # of Tim.	PWM	RTC / Syst. Tmr.	WD	Serial Interfaces: UART	I²C	CAN	SPI	ADC bits / ch.	I/O Pins	Interrupts (Ext)/Levels	Program Security	Core	External Bus	PLL	Reset active-low or -high?	Max. Freq. [MHz]	CPU Voltage	I/O Voltage	Temp. Range Options	Package Options	Comments / Special Features	Registerable? (NA only)
LPC2000 16/32-bit ARM7TDMI-S																												
LPC210x family:	The LPC210x family is the first Philips Microcontroller family based on the ARM7TDMI-S core and offers 1.8V High Speed Low-Power Flash 60MHz operation, zero wait-state Flash, on-chip Real-Time Monitor and Trace.																											
LPC2106	✓	64K	128K	16 x 8K	128 -bit	-/Y/Y	4	✓	✓	✓	✓(2)	✓	-	✓	-	32	16(3)/ 16	-	ARM7 TDMI	-	✓	L	60	1.8V	3.3V	B	LQFP48	First ARM7TDMI-S derivative; 0 Waitstate exec. from int. Flash; no ext. bus; 5V tolerant I/O; with E-ICE (JTAG) debugging and ETM Trace Port	✓
LPC2105	✓	32K	128K	16 x 8K	128 -bit	-/Y/Y	4	✓	✓	✓	✓(2)	✓	-	✓	-	32	16(3)/ 16	-	ARM7 TDMI	-	✓	L	60	1.8V	3.3V	B	LQFP48	32K RAM version of LPC2106	✓
LPC2104	✓	16K	128K	16 x 8K	128 -bit	-/Y/Y	4	✓	✓	✓	✓(2)	✓	-	✓	-	32	16(3)/ 16	-	ARM7 TDMI	-	✓	L	60	1.8V	3.3V	B	LQFP48	16K RAM version of LPC2106	✓
LPC2114/2124 NEW	✓	16K	128K/ 256K	16 x 8K	128 -bit	-/Y/Y	4	✓	✓	✓	✓(2)	✓	-	✓(2)	10/4	46	16(3)/ 16	-	ARM7 TDMI	-	✓	L	60	1.8V	3.3V	F	LQFP64	LPC2104 enhancement in 64-pin package w/ 10-bit SA ADC, 2nd SPI and 128K / 256K Flash	✓
LPC2119/2129 NEW	✓	16K	128K/ 256K	16 x 8K	128 -bit	-/Y/Y	4	✓	✓	✓	✓(2)	✓	✓(2)	✓(2)	10/4	46	16(3)/ 16	-	ARM7 TDMI	-	✓	L	60	1.8V	3.3V	F	LQFP64	LPC2104 enhancement in 64-pin package w/ 2 CAN channels, 10-bit SA ADC, 2nd SPI and 128K / 256K Flash	✓

Type	Production	Memory: RAM	EEPROM	Flash	ICP / PP?	ISP / IAP?	Timers: Total # of Timers	PWM	RTC / Syst. Tmr.	WD	Serial Interfaces: UART	I²C	CAN	SPI	ADC bits / ch.	I/O Pins	Interrupts (Ext)/Levels	Program Security	Core	Default Clock Rate	Optional Clock Rate	Reset active-low or -high?	Max. Freq. at 2-clk [MHz]	Freq. Range at 3V [MHz]	Freq. Range at 5V [MHz]	Temp. Range Options	Package Options	Comments / Special Features	Registerable? (NA only)
LPC900 2-clock 80C51 core: 167ns/Instr. @12MHz																													
LPC900 family:	The LPC900 family integrates a new 2-clock core, 3V low-power Flash code memory, data EEPROM as well as important system functions, making it a complete single-chip solution for many embedded applications.																												
P89LPC932	✓	768B	512B	8K	- / Y	Y / Y	5	CCU	✓	✓	✓	✓	-	✓	2 An. Comp	26	15(3)/4	✓	2clk51	2-clk	-	L	12	0-12	-	B	TSSOP28 PLCC28, HVQFN28	Low-Power 3V Flash w/ EEPROM, ± 2.5% int. RC Osc.(7.3728MHz), BOD, POR, 8KBI's, 2 analog comp., 167ns / instr. @ 12MHz	✓
P89LPC930/931	✓	256B	4/8K *		Y**/ Y	Y / Y	4	2 ch.	✓	✓	✓	✓	-	✓	2 An. Comp	26	13(3)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	TSSOP28	Reduced memory versions of LPC932. No CCU. * Byte-erasable Flash; ** Production parts (Rev -) only	✓
P89LPC921/922	✓	256B	4/8K *		Y**/ Y	Y / Y	4	2 ch.	✓	✓	✓	✓	-	-	2 An. Comp	18	12(3)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	TSSOP20 DIP20	20-pin version of LPC932; LPC76x pin-comp. upgrade; no CCU; no SPI. * Byte-erasable Flash; ** Production parts (-) only	✓
P89LPC920	✓	256B	2K *		Y / Y	Y / Y	4	2 ch.	✓	✓	✓	✓	-	-	2 An. Comp	18	12(3)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	TSSOP20 DIP20	2K Flash Version of 921/922; LPC76x pin-comp. upgrade * Byte-erasable Flash	✓
P89LPC914	✓	128B	1K *		Y / -	- / -	4	1 ch.	✓	✓	✓	-	-	✓	2 An. Comp	12	10(1)/4	✓	2clk51	2-clk	-	L	IRC	0-IRC	-	F	TSSOP14	14-pin package; UART; SPI; 2 Analog Comparators; * Byte-erasable Flash; no XTAL pins	✓
P89LPC913	✓	128B	1K *		Y / -	- / -	4	-	✓	✓	✓	-	-	✓	2 An. Comp	12	10(1)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	TSSOP14	14-pin package; UART; SPI; 2 Analog Comparators * Byte-erasable Flash	✓
P89LPC912	✓	128B	1K *		Y / -	- / -	4	1 ch.	✓	✓	-	-	-	✓	2 An. Comp	12	7(1)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	TSSOP14	14-pin package; SPI; 2 Analog Comparators * Byte-erasable Flash	✓
P89LPC908	✓	128B	1K *		Y / -	- / -	4	-	✓	✓	✓	-	-	-	1 An. Comp	6	9(1)/4	✓	2clk51	2-clk	-	L	IRC	0-IRC	-	F	SO8	8-pin package; Philips alternate pinout; UART; 1 Anal. Comp. * Byte-erasable Flash; no XTAL pins	✓
P89LPC907	✓	128B	1K *		Y / -	- / -	4	-	✓	✓	✓ **	-	-	-	1 An. Comp	6	8(1)/4	✓	2clk51	2-clk	-	L	IRC	0-IRC	-	F	SO8	8-pin pack.; Philips alternate pinout; 1 Anal. Comp., no XTAL * Byte-erasable Flash ** Transmit function only	✓
P89LPC906	✓	128B	1K *		Y / -	- / -	4	1 ch.	✓	✓	-	-	-	-	1 An. Comp	6	6(1)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	SO8	8-pin package; Philips alternate pinout; 1 Anal. Comp. * Byte-erasable Flash	✓
P89LPC903	✓	128B	1K *		Y / -	- / -	4	-	✓	✓	✓	-	-	-	2 An. Comp	6	9(1)/4	✓	2clk51	2-clk	-	L	IRC	0-IRC	-	F	SO8	8-pin package; industry standard pinout; UART; 2 Anal. Comp. * Byte-erasable Flash; no XTAL pins	✓
P89LPC902	✓	128B	1K *		Y / -	- / -	4	-	✓	✓	-	-	-	-	2 An. Comp	6	6(1)/4	✓	2clk51	2-clk	-	L	IRC	0-IRC	-	F	SO8, DIP8	8-pin package; industry standard pinout; 2 Anal. Comp. * Byte-erasable Flash; no XTAL pins	✓
P89LPC901	✓	128B	1K *		Y / -	- / -	4	1 ch.	✓	✓	-	-	-	-	1 An. Comp	6	6(1)/4	✓	2clk51	2-clk	-	L	12	0-12	-	F	SO8, DIP8	8-pin package; industry standard pinout; 1 Anal. Comp, * Byte-erasable Flash	-

Type	Production	Memory: RAM	ROM	OTP	Flash	PP / ISP / IAP?	Timers: # of Tim.	PWM	PCA	WD	Serial Interfaces: UART	I²C	CAN	SPI	ADC bits / ch.	I/O Pins	Interrupts (Ext)/Levels	Program Security	Core	Default Clock Rate	Optional Clock Rate	Reset active-low or -high?	Max. Freq. [MHz]	Freq. Range at 3V [MHz]	Freq. Range at 5V [MHz]	Temp. Range Options	Package Options	Comments / Special Features	Registerable? (NA only)
XA 16-bit																													
XA Architecture:	The Philips XA (eXtended Architecture) is a family of high-performance,16-bit, single-chip microcontrollers, providing an upgrade path for the 8-bit 80C51 architecture.																												
PXA-C37	✓	1K	-	32K	-	-	3	-	-	✓	✓	-	✓	✓	-	32	42(3)/8	✓	XA	N/A	N/A	L	32	-	0-32	B, F	PLCC44, LQFP44	On-chip CAN 2.0B; HW support f. CAN Higher Layer Protocols	✓
PXA-G49	✓	2K	-	-	64K	Y/Y/Y	3	-	-	✓	✓(2)	-	-	-	-	32	38(3)/8	✓	XA	N/A	N/A	L	30	-	0-30	B, F	PLCC44, LQFP44	XA version with 64K Flash	✓
PXA-G39	✓	1K	-	-	32K	Y/Y/Y	3	-	-	✓	✓(2)	-	-	-	-	32	38(3)/8	✓	XA	N/A	N/A	L	30	-	0-30	B	PLCC44	2nd XA version with Flash, 1/2 the memory size of XA-G49	✓
PXA-G37	✓	512B	-	32K	-	-	3	-	-	✓	✓(2)	-	-	-	-	32	38(3)/8	✓	XA	N/A	N/A	L	30	0-30	0-30	B, F	PLCC44, LQFP44	easy 80C51 upgrade	✓
PXA-G30	✓	512B	-	-	-	-	3	-	-	✓	✓(2)	-	-	-	-	32	38(3)/8	-	XA	N/A	N/A	L	30	0-30	0-30	B, F	PLCC44, LQFP44	easy 80C51 upgrade, redesigned for lower power consumption	✓
PXA-S37	✓	1K	-	32K	-	-	4	✓	✓	✓	✓(2)	✓	-	-	8/8	50	46(8)/8	✓	XA	N/A	N/A	L	30	0-30	0-30	B, F	PLCC68, LQFP80	for demanding closed-loop embedded control applications	✓
PXA-S30	✓	1K	-	-	-	-	4	✓	✓	✓	✓(2)	✓	-	-	8/8	50	46(8)/8	-	XA	N/A	N/A	L	30	0-30	0-30	B, F	PLCC68, LQFP80	for demanding closed-loop embedded control applications	✓
PXA-H40	✓	256B	-	-	-	-	2	-	-	✓	✓(4)	-	-	-	-	33	42(2)/8	-	XA	N/A	N/A	L	30	0-30	0-30	F	LQFP100	on-board DRAM contr., 4 USARTs for HDLC/SDLC (85C30 style)	-
PXA-H30	✓	256B	-	-	-	-	2	-	-	✓	✓(4)	-	-	-	-	33	42(2)/8	-	XA	N/A	N/A	L	30	0-30	0-30	F	LQFP100	four UARTs with DMA and 230.4 kbps capability	-

IAP = In-Application Programmable Flash; ISP = In-System Progr. Flash; PP = Parallel Progr. Flash (via parallel programmer); ICP = In-Circuit Programmable (using off-board programmer); OTP = One-Time Programmable (EPROM); KBI = Keyboard Interrupt Inputs

I2C = Inter-Integrated Circuit Bus; CAN = Controller Area Network; PCA = Programmable Counter Array; ADC = Analog-to-Digital Converter; AC = Analog Comparator; PWM = Pulse Width Modulation

CCU = Capture Compare Unit; IRC = Internal RC Oscillator; POR = Power-On Reset; BOD = Brown-out detect; CLKIN = Clock-In Pin (ext. osc. only)

Shaded fields = Changes from previous edition

Temp. Range Options: B = 0 to +70°C, F = -40 to +85°C, H = -40 to +125°C. Not all package/temperature/voltage/frequency combinations are available. For most parts "3V" voltage range is 2.7V - 5.5V and "5V" voltage range is 4.5V - 5.5V. Check data sheet for details.

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Happy Holidays!

Type 80C51	Production	Memory: RAM	ROM	OTP	Flash	PP/ ISP / IAP?	Timers: # of Tim.	PWM	PCA	WD	Serial Interfaces: UART	I²C	CAN	SPI	ADC bits / ch.	I/O Pins	Interrupts (Ext)/Levels	Program Security	Core	Default Clock Rate	Optional Clock Rate	Reset active-low or -high?	Max. Freq. at 6-clk / 12-clk [MHz]	Freq. Range at 3V [MHz]	Freq. Range at 5V [MHz]	Temp. Range Options	Package Options	Comments / Special Features	Registerable? (NA only)
Mx2 family:	The Mx2 family is the first Philips uC family to be based on the 51MX (Memory eXtension) core, which is an accelerated (6-clock), fully static 80C51 architecture supporting up to 8 MB of program memory and 8 MB of data memory.																												
P87C51MC2/02	✓	3K	-	96K	-	-	4	-	✓	✓	✓(2)	-	-	✓	-	34	13(2)/4	✓	51MX	6-clk	-	H	24 / -	0-12	0-24	B	PLCC44	16MB data/code addr. range; 2 UARTs, SPI , P4 I/O	✓
P87C51MB2/02	✓	2K	-	64K	-	-	4	-	✓	✓	✓(2)	-	-	✓	-	34	13(2)/4	✓	51MX	6-clk	-	H	24 / -	0-12	0-24	B	PLCC44	16MB data/code addr. range; 2 UARTs, SPI, P4 I/O	✓
LPC76x family:	The LPC76x family is a highly integrated OTP-based single-chip microcontroller family with low pin-count (LPC) packages, designed for low system cost applications.																												
P87LPC769	✓	128B	-	4K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	8/4	18	13(3)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	H	SO20	2 AC, BOD, POR, 8KBI's, IRC (6MHz ± 25%), 4ch 8bit ADC, 2ch 8bit DAC	✓
P87LPC768	✓	128B	-	4K	-	OBP	2	✓	-	✓	✓	✓(bit)	-	-	8/4	18	13(3)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B, F	DIP20, SO20	2 AC, BOD, POR, 8KBI's, IRC (6MHz ± 25%), 4ch 8bit ADC, PWM	✓
P87LPC767	✓	128B	-	4K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	8/4	18	13(3)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B, F, H	DIP20, SO20	2 AC, BOD, POR, 8KBI's, IRC (6MHz ± 25%), 4ch 8bit ADC	✓
P87LPC764	✓	128B	-	4K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	2 AC	18	12(3)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B, F	TSSOP20, DIP20, SO20	2 AC, BOD, POR, 8KBI's, IRC (6MHz ± 10% / ± 25%)	✓
P87LPC764 /01	✓	128B	-	4K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	2 AC	18	12(3)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B	TSSOP20, SO20	764 with improved IRC (6MHz ± 2.5% (0-50 C))	✓
P87LPC764HDH	✓	128B	-	4K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	2 AC	18	12(3)/4	✓	6clk51	6-clk	12-clk	L	16 / 16	-	0-16	H	TSSOP20	764 with -40C to +125C spec; 5V; 16MHz; IRC=6MHz ± 10%	✓
P87LPC762	✓	128B	-	2K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	2 AC	18	12(3)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B, F	TSSOP20, DIP20, SO20	2 AC, BOD, POR, 8KBI's, IRC (6MHz ± 10% / ± 25%)	✓
P87LPC761	✓	128B	-	2K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	2 AC	14	11(2)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B	TSSOP16, DIP16	16-pin LPC derivative; ± 2.5% internal RC Oscillator (0-50°C)	✓
P87LPC760	✓	128B	-	1K	-	OBP	2	-	-	✓	✓	✓(bit)	-	-	1 AC	12	11(2)/4	✓	6clk51	6-clk	12-clk	L	20 / 20	0-10	0-20	B	TSSOP14, DIP14	14-pin LPC derivative; ± 2.5% internal RC Oscillator (0-50°C)	✓
66x family:	The P89C66x offers a large on-chip RAM, the flexibility of Flash ISP and IAP, PMW, high-speed I/O and/or up/down counting capabilities. Because of the I²C interface it is also well suited for Intelligent Platform Management (IPMI) applications.																												
P89C669	✓	2K	-	-	96K	Y/Y/Y	4	✓	✓	✓	✓(2)	✓	-	-	-	32	13(2)/4	✓	51MX	6-clk	-	H	24 / -	-	0-24	B, F	PLCC44, LQFP44	51MX core, 16MB data/code addr. range; 2 UARTs, I²C, no P4	✓
P89C668	✓	8K	-	-	64K	Y/Y/Y	4	✓	✓	✓	✓	✓	-	-	-	32	8(2)/4	✓	6clk51	6-clk	12-clk	H	20 / 33	-	0-20/33	B, F	PLCC44, LQFP44	6-clk default, 12-clk option; 5V ISP/IAP Flash	✓
P89C664	✓	2K	-	-	64K	Y/Y/Y	4	✓	✓	✓	✓	✓	-	-	-	32	8(2)/4	✓	6clk51	6-clk	12-clk	H	20 / 33	-	0-20/33	B, F	PLCC44, LQFP44	6-clk default, 12-clk option; 5V ISP/IAP Flash	✓
P89C662	✓	1K	-	-	32K	Y/Y/Y	4	✓	✓	✓	✓	✓	-	-	-	32	8(2)/4	✓	6clk51	6-clk	12-clk	H	20 / 33	-	0-20/33	B, F	PLCC44, LQFP44	6-clk default, 12-clk option; 5V ISP/IAP Flash	✓
P89C660	✓	512B	-	-	16K	Y/Y/Y	4	✓	✓	✓	✓	✓	-	-	-	32	8(2)/4	✓	6clk51	6-clk	12-clk	H	20 / 33	-	0-20/33	B, F	PLCC44, LQFP44	6-clk default, 12-clk option; 5V ISP/IAP Flash	✓
66xX2 family:	The P87C66xX2 offers 16K OTP, PMW (PCA) and up to two I²C interfaces.																												
P87C661X2	✓	512B	-	16K	-	-	4	✓	✓	✓	✓	✓(2)	-	-	-	32	9(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B	PLCC44, LQFP44	87C660X2 with two I²C interfaces	✓
P87C660X2	✓	512B	-	16K	-	-	4	✓	✓	✓	✓	✓	-	-	-	32	8(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	PLCC44, LQFP44	OTP version of 89C660; 12-clk default, 6-clk option	✓
Rx2 family:	The P8xC51Rx2 offers the flexibility of Flash ISP and IAP, PMW, high-speed I/O and/or up/down counting capabilities.																												
P89LV51RD2	✓	1K	-	-	64K	Y/Y/Y	4	✓	✓	✓	✓	-	-	✓	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	33	33	-	B, F	DIP40, PLCC44, TQFP44	Operating Voltage 3V ± 10%	-
P89C51RD2 /01	✓	1K	-	-	64K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	12-clk default, 6-clk option; 5V ISP/IAP Flash, 4K blocks	-
P89C51RD2H	✓	1K	-	-	64K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	6-clk	12-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	Please use new 89C51RD2 /01 (see above)	-
P87C51RD2	✓	1K	-	64K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	RD2 in OTP	-
P89C51RC2 /01	✓	512B	-	-	32K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	12-clk default, 6-clk option; 5V ISP/IAP Flash, 4K blocks	-
P89C51RC2H	✓	512B	-	-	32K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	Please use new 89C51RC2 /01 (see above)	-
P87C51RC2	✓	512B	-	32K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	RC2 in OTP	-
P89C51RB2 /01	✓	512B	-	-	16K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B	PLCC44, LQFP44	12-clk default, 6-clk option; 5V ISP/IAP Flash, 4K blocks	-
P89C51RB2H	✓	512B	-	-	16K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	6-clk	12-clk	H	20 / 33	-	0-20/33	B	PLCC44, LQFP44	Please use new 89C51RB2 /01 (see above)	-
P87C51RB2	✓	512B	-	16K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B	DIP40, PLCC44, LQFP44	RB2 in OTP	-
P89C51RA2 /01	✓	512B	-	-	8K	Y/Y/Y	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B	PLCC44, LQFP44	12-clk default, 6-clk option; 5V ISP/IAP Flash, 4K blocks	-
P87C51RA2	✓	512B	-	8K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B	PLCC44, LQFP44	RA2 in OTP	-
55x family:																													
P87C552	✓	256B	-	8K	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/4	✓	Std51	12-clk	-	H	- / 16	0-16	0-16	B, F	PLCC68		✓
P83C552	✓	256B	8K	-	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F, H	PLCC68,QFP80		-
P80C552	✓	256B	-	-	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/2	-	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F, H	PLCC68,QFP80		✓
P87C554 LQFP	✓	512B	-	16K	-	-	3	✓	-	✓	✓	✓	-	-	10/7	48	15(6)/4	✓	6clk51	6-clk	-	H	16 / -	0-8	0-16	B, F	LQFP64	6-clk only; LQFP64 only; 7 ADC channels	✓
P87C554 PLCC	✓	512B	-	16K	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/4	✓	Std51	12-clk	-	H	- / 16	0-16	0-16	B, F	PLCC68	12-clk only; PLCC68 only; 8 ADC channels	✓
P83C554 LQFP	✓	512B	16K	-	-	-	3	✓	-	✓	✓	✓	-	-	10/7	48	15(6)/4	✓	6clk51	6-clk	-	H	16 / -	0-8	0-16	B, F	LQFP64	6-clk only; LQFP64 only; 7 ADC channels	-
P83C554 PLCC	✓	512B	16K	-	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/4	✓	Std51	12-clk	-	H	- / 16	0-16	0-16	B, F	PLCC68	12-clk only; PLCC68 only; 8 ADC channels	-
P80C554 LQFP	✓	512B	-	-	-	-	3	✓	-	✓	✓	✓	-	-	10/7	48	15(6)/4	-	6clk51	6-clk	-	H	16 / -	0-8	0-16	B, F	LQFP64	6-clk only; LQFP64 only; 7 ADC channels	✓
P87C557E8	✓	2K	-	64K	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 16	-	3.5-16	F	QFP80	12-clk only; QFP80 only; lower EMI	-
P83C557E8	(✓)	2K	64K	-	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 16	-	3.5-16	F	QFP80	not recommended for new designs	-
P83C557E4	✓	1K	32K	-	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 16	-	3.5-16	B, F	QFP80	12-clk only; QFP80 only; lower EMI	-
P80C557E4	✓	1K	-	-	-	-	3	✓	-	✓	✓	✓	-	-	10/8	48	15(6)/2	-	Std51	12-clk	-	H	- / 16	-	3.5-16	B, F	QFP80	12-clk only; QFP80 only; lower EMI	-
8xC6x																													
P89C61X2	✓	1K	-	-	64K	Y/Y/-	3	-	-	✓	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B	PLCC44, LQFP44	89C58 upgrade w/ low-end ISP	✓
P89C60X2	✓	512B	-	-	64K	Y/Y/-	3	-	-	✓	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B	PLCC44, LQFP44	89C58 upgrade w/ low-end ISP	✓
8xC58																													
P89C58X2	✓	256B	-	-	32K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk def., 6-clk opt. (switch by SW or par. progr.)	-
P89C58B	✓	256B	-	-	32K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	-	0-33	B	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk only	-
P87C58X2	✓	256B	-	32K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	OTP part; 12-clk def., 6-clock opt. (switch by SW or par. progr.)	-
P87C58	✓	256B	-	32K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	OTP part; 12-clk only	-
P80C58X2	✓	256B	32K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	ROM part; 12-clk default, 6-clock option (switch by software)	-
P80C58	✓	256B	32K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 80C58X2 (see above) for new ROM codes	-
8xC54																													
P89C54X2	✓	256B	-	-	16K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk def., 6-clk opt. (switch by SW or par. progr.)	-
P89C54B	✓	256B	-	-	16K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	-	0-33	B	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk only	-
P87CL54X2	✓	256B	-	16K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	16 / 33*	0-33	-	B	LQFP44, TSSOP38	* at 3.3V±10%; for 1.8V to 3.3V: 6MHz (6-clk) / 12MHz (12-clk)	-
P87C54X2	✓	256B	-	16K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	OTP part; 12-clk def., 6-clock opt. (switch by SW or par. progr.)	-
P87C54	✓	256B	-	16K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	OTP part; 12-clk only	-
P80C54X2	✓	256B	16K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	ROM part; 12-clk default, 6-clock option (switch by software)	-
P80C54	✓	256B	16K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 80C54X2 (see above) for new ROM codes	-

IAP = In-Application Programmable Flash; ISP = In-System Progr. Flash; PP = Parallel Progr. Flash (via parallel programmer); ICP = In-Circuit Programmable (using off-board programmer); OTP = One-Time Programmable (EPROM); KBI = Keyboard Interrupt Inputs

I2C = Inter-Integrated Circuit Bus; CAN = Controller Area Network; PCA = Programmable Counter Array; ADC = Analog-to-Digital Converter; AC = Analog Comparator; PWM = Pulse Width Modulation

CCU = Capture Compare Unit; IRC = Internal RC Oscillator; POR = Power-On Reset; BOD = Brown-out detect; CLKIN = Clock-In Pin (ext. osc. only)

Shaded fields = Changes from previous edition

Temp. Range Options: B = 0 to +70°C, F = -40 to +85°C, H = -40 to +125°C. Not all package/temperature/voltage/frequency combinations are available. For most parts "3V" voltage range is 2.7V - 5.5V and "5V" voltage range is 4.5V - 5.5V. Check data sheet for details.

PHILIPS

Philips Microcontroller Product Overview - Edition 12/2003

Happy Holidays!

Type 80C51	Production	Memory					Timers				Serial Interfaces					ADC bits / ch.	I/O Pins	Interrupts (Ext)/Levels	Program Security	Core	Default Clock Rate	Optional Clock Rate	Reset active-low or -high?	Max. Freq. at 6-clk / 12-clk [MHz]	Freq. Range at 3V [MHz]	Freq. Range at 5V [MHz]	Temp. Range Options	Package Options	Comments / Special Features	Registerable? (NA only)
		RAM	ROM	OTP	Flash	PP/ ISP / IAP?	# of Tim.	PWM	PCA	WD	UART	I²C	CAN	SPI																
8xC52																														
P89C52X2	✓	256B	-	-	8K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk def., 6-clk opt. (switch by SW or par. progr.)	-
P89C52B	✓	256B	-	-	8K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	-	0-33	B	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk only	-
P87CL52X2	✓	256B	-	8K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	16 / 33*	0-33	-	B	LQFP44, TSSOP38	* at 3.3V±10%; for 1.8V to 3.3V: 6MHz (6-clk) / 12MHz (12-clk)	-
P87C52X2	✓	256B	-	8K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	OTP part; 12-clk def., 6-clock opt. (switch by SW or par. progr.)	-
P87C52	✓	256B	-	8K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	OTP part; 12-clk only	-
P80C52X2	✓	256B	8K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	ROM part; 12-clk default, 6-clock option (switch by software)	-
P80C52	✓	256B	8K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 80C52X2 (see above) for new ROM codes	-
8xC51																														
P89C51X2	✓	128B	-	-	4K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	20 / 33	-	0-20/33	B, F	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk def., 6-clk opt. (switch by SW or par. progr.)	-
P89C51B	✓	128B	-	-	4K	Y/-/-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	-	0-33	B	DIP40, PLCC44, LQFP44	5V PP Flash part; 12-clk only	-
P87C51X2	✓	128B	-	4K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	OTP part; 12-clk def., 6-clock opt. (switch by SW or par. progr.)	-
P87C51	✓	128B	-	4K	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	OTP part; 12-clk only	-
P80C51X2	✓	128B	4K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	ROM part; 12-clk default, 6-clock option (switch by software)	-
P80C51	✓	128B	4K	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 80C51X2 (see above) for new ROM codes	-
80C3x																														
P80C32X2	✓	256B	-	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	-	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	DIP40, PLCC44, LQFP44	ROMless part; 12-clk default, 6-clock option (switch by SW)	-
P80C32	✓	256B	-	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	-	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	ROMless part; 12-clk only	-
P80C31X2	✓	128B	-	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	-	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B	DIP40, PLCC44	ROMless part; 12-clk default, 6-clock option (switch by SW)	-
P80C31	✓	128B	-	-	-	-	3	-	-	-	✓	-	-	-	-	32	6(2)/4	-	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	ROMless part; 12-clk only	-
CAN devices:																														
P87C591	✓	512B	-	16K	-	-	3	✓	-	✓	✓	✓	✓	-	10/6	32	15(6)/4	✓	6clk51	6-clk	-	L	12 / -	-	0-12	F	PLCC44, PQFP44	CAN 2.0B, baud rate generator for UART	✓
P83C591	✓	512B	16K	-	-	-	3	✓	-	✓	✓	✓	✓	-	10/6	32	15(6)/4	✓	6clk51	6-clk	-	L	12 / -	-	0-12	F	PLCC44, PQFP44	CAN 2.0B, baud rate generator for UART	-
P83C592	✓	512B	16K	-	-	-	3	✓	-	✓	✓	-	✓	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 16	-	1.2-16	F, H	PLCC68	CAN V2.0A, five 8-bit I/O ports	-
P80C592	✓	512B	-	-	-	-	3	✓	-	✓	✓	-	✓	-	10/8	48	15(6)/2	-	Std51	12-clk	-	H	- / 16	-	1.2-16	F, H	PLCC68	CAN V2.0A, five 8-bit I/O ports	-
P87CE598	✓	512B	-	32K	-	-	3	✓	-	✓	✓	-	✓	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 16	-	1.2-16	F, H	QFP80	CAN V2.0A, five 8-bit I/O ports, "E"=lower EMI (more Vss pins)	-
P83CE598	✓	512B	32K	-	-	-	3	✓	-	✓	✓	-	✓	-	10/8	48	15(6)/2	✓	Std51	12-clk	-	H	- / 16	-	1.2-16	F, H	QFP80	CAN V2.0A, five 8-bit I/O ports, "E"=lower EMI (more Vss pins)	-
P80CE598	✓	512B	-	-	-	-	3	✓	-	✓	✓	-	✓	-	10/8	48	15(6)/2	-	Std51	12-clk	-	H	- / 16	-	1.2-16	F, H	QFP80	CAN V2.0A, five 8-bit I/O ports, "E"=lower EMI (more Vss pins)	-
Rx+ family:																														
P87C51RD+	✓	1K	-	64K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RD2 /01 (Flash) or 87C51RD2 (OTP) for new designs	-
P83C51RD+	✓	1K	64K	-	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RD2 /01 (Flash) or 87C51RD2 (OTP) for new designs	-
P87C51RC+	✓	512B	-	32K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RC2 /01 (Flash) or 87C51RC2 (OTP) for new designs	-
P83C51RC+	✓	512B	32K	-	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RC2 /01 (Flash) or 87C51RC2 (OTP) for new designs	-
P87C51RB+	✓	512B	-	16K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RB2 /01 (Flash) or 87C51RB2 (OTP) for new designs	-
P83C51RB+	✓	512B	16K	-	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RB2 /01 (Flash) or 87C51RB2 (OTP) for new designs	-
P87C51RA+	✓	512B	-	8K	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RA2 /01 (Flash) or 87C51RA2 (OTP) for new designs	-
P83C51RA+	✓	512B	8K	-	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RA2 /01 (Flash) or 87C51RA2 (OTP) for new designs	-
P80C51RA+	✓	512B	-	-	-	-	4	✓	✓	✓	✓	-	-	-	-	32	7(2)/4	-	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RA2 /01 (Flash) or 87C51RA2 (OTP) for new designs	-
Fx family:																														
P87C51FC	✓	256B	-	32K	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RC2 /01 (Flash) or 87C51RC2 (OTP) for new designs	-
P83C51FC	✓	256B	32K	-	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RC2 /01 (Flash) or 87C51RC2 (OTP) for new designs	-
P87C51FB	✓	256B	-	16K	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RB2 /01 (Flash) or 87C51RB2 (OTP) for new designs	-
P83C51FB	✓	256B	16K	-	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RB2 /01 (Flash) or 87C51RB2 (OTP) for new designs	-
P87C51FA	✓	256B	-	8K	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RA2 /01 (Flash) or 87C51RA2 (OTP) for new designs	-
P83C51FA	✓	256B	8K	-	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	✓	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RA2 /01 (Flash) or 87C51RA2 (OTP) for new designs	-
P80C51FA	✓	256B	-	-	-	-	4	✓	✓	-	✓	-	-	-	-	32	7(2)/4	-	Std51	12-clk	-	H	- / 33	0-16	0-33	B, F	DIP40, PLCC44, QFP44	Please use 89C51RA2 /01 (Flash) or 87C51RA2 (OTP) for new designs	-
75x/74x family:																														
S8xC752	(✓)	64B	2K	2K	-	-	1	✓	-	-	-	✓(bit)	-	-	8/5	21	7(2)/2	-	Std51	12-clk	-	H	- / 16	-	3.5-16	B, F	DIP28, PLCC28, SSOP28	not recommended for new designs, use P87LPC767	-
S8xC751	(✓)	64B	2K	2K	-	-	1	-	-	-	-	✓(bit)	-	-	-	19	5(2)/2	-	Std51	12-clk	-	H	- / 16	-	3.5-16	B, F	DIP24, PLCC28, SSOP24	not recommended for new designs, use P87LPC764	-
P8xC750	(✓)	64B	1K	1K	-	-	1	-	-	-	-	-	-	-	-	19	3(2)/2	-	Std51	12-clk	-	H	- / 16	-	3.5-16	B	DIP24, PLCC28, SSOP24	not recommended for new designs, use P87LPC762	-
P8xC749	(✓)	64B	2K	2K	-	-	2	✓	-	-	-	-	-	-	8/5	21	6(2)/2	-	Std51	12-clk	-	H	- / 16	-	3.5-16	B	DIP28, PLCC28, SSOP28	not recommended for new designs, use P87LPC767	-
P8xC748	(✓)	64B	2K	2K	-	-	2	-	-	-	-	-	-	-	-	19	4(2)/2	-	Std51	12-clk	-	H	- / 16	-	3.5-16	B	DIP24, PLCC28, SSOP24	not recommended for new designs, use P87LPC764	-
654/652 family:																														
P87C654X2	✓	256B	-	16K	-	-	2	-	-	-	✓	✓	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	PLCC44, LQFP44	X2 version of S87C654/652	-
P83C654X2	✓	256B	16K	-	-	-	2	-	-	-	✓	✓	-	-	-	32	7(2)/4	✓	6clk51	12-clk	6-clk	H	30 / 33	0-16	0-30/33	B, F	PLCC44, LQFP44	X2 version of P83C654/652	-
S87C654	(✓)	256B	-	16K	-	-	2	-	-	-	✓	✓	-	-	-	32	7(2)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F	DIP40, PLCC44, QFP44	not recommended for new designs, use P87C654X2	-
P83C654	(✓)	256B	16K	-	-	-	2	-	-	-	✓	✓	-	-	-	32	7(2)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F	DIP40, PLCC44, QFP44	not recommended for new designs, use P83C654X2	-
S87C652	(✓)	256B	-	8K	-	-	2	-	-	-	✓	✓	-	-	-	32	7(2)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F	DIP40, PLCC44, QFP44	not recommended for new designs, use P87C654X2	-
P83/80C652	(✓)	256B	8K	-	-	-	2	-	-	-	✓	✓	-	-	-	32	7(2)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F	DIP40, PLCC44, QFP44	not recommended for new designs, use P87C654X2	-
57x family:																														
P8xC576	(✓)	256B	8K	8K	-	-	3	-	✓	✓	✓	-	-	-	10/6	32	15(6)/2	-	Std51	12-clk	-	H	- / 16	-	6-16	B, F, H	DIP40, PLCC44, QFP44	not recommended for new designs, use P8xC591	-
P8xC575	(✓)	256B	8K	8K	-	-	3	-	✓	✓	✓	-	-	-	-	32	7(6)/2	-	Std51	12-clk	-	H	- / 16	-	4-16	B, H	DIP40, PLCC44, QFP44	not recommended for new designs, use P8xC591	-
52x family:																														
P8xC528	(✓)	512B	32K	32K	-	-	3	-	-	✓	✓	✓(bit)	-	-	-	32	8(2)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F	DIP40, PLCC44, QFP44	not recommended for new designs, use P89C66x	-
P8xC524	(✓)	512B	16K	16K	-	-	3	-	-	✓	✓	✓(bit)	-	-	-	32	8(2)/2	✓	Std51	12-clk	-	H	- / 24	-	3.5-24	B, F	DIP40, PLCC44, QFP44	not recommended for new designs, use P89C66x	-

IAP = In-Application Programmable Flash; ISP = In-System Progr. Flash; PP = Parallel Progr. Flash (via parallel programmer); ICP = In-Circuit Programmable (using off-board programmer); OTP = One-Time Programmable (EPROM); KBI = Keyboard Interrupt Inputs

I2C = Inter-Integrated Circuit Bus; CAN = Controller Area Network; PCA = Programmable Counter Array; ADC = Analog-to-Digital Converter; AC = Analog Comparator; PWM = Pulse Width Modulation

CCU = Capture Compare Unit; IRC = Internal RC Oscillator; POR = Power-On Reset; BOD = Brown-out detect; CLKIN = Clock-In Pin (ext. osc. only)

Shaded fields = Changes from previous edition

Temp. Range Options: B = 0 to +70°C, F = -40 to +85°C, H = -40 to +125°C. Not all package/temperature/voltage/frequency combinations are available. For most parts "3V" voltage range is 2.7V - 5.5V and "5V" voltage range is 4.5V - 5.5V. Check data sheet for details.

Prepared by:
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