PRODUCT LINE CARD

FOURTH QUARTER 1998

MICROCHIP

The Embedded Control Solutions Company®

PICmicro™ 8-BIT MICROCONTROLLER FAMILY

Product	Program Memory OTP Bytes	Program Memory OTP Words	E^2PROM Data Memory	Data RAM Bytes	Max. Speed MHz	I/O Ports	ADC 8-Bits	Serial I/O	PWM	Brown-Out Detection	Comparators	Timers	ICSP™	Other Features	ROM Equivalent	Packages
PIC12CXXX — 400NS INSTRUCTION EXECUTION, 33/35 INSTRUCTIONS																
PIC12C508	768	512x12	—	25	4	6	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW
PIC12C508A	768	512x12	—	25	4	6	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW, 8SN
PIC12C509	1536	1024x12	—	41	4	6	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW
PIC12C509A	1536	1024x12	—	41	4	6	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW, 8SN
PIC12CE518	768	512x12	16	25	4	6	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW, 8SN
PIC12CE519	1536	1024x12	16	41	4	6	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW, 8SN
PIC12C671	1792	1024x14	—	128	10	6	4	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW
PIC12C672	3584	2048x14	—	128	10	6	4	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM, 8JW
PIC12CE673*	1792	1024x14	16	128	10	6	4	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8JW
PIC12CE674*	3584	2048x14	16	128	10	6	4	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8JW
PIC16C5X — 200NS INSTRUCTION EXECUTION, 33 INSTRUCTIONS																
PIC16C52	576	384x12	—	25	4	12	—	—	—	—	—	1	—	10mA source/sink per I/O	—	18P, 18SO
PIC16C54	768	512x12	—	25	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR54A	18P, 18JW, 18SO, 20SS
PIC16C54A	768	512x12	—	25	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	—	18P, 18JW, 18SO, 20SS
PIC16C54C	768	512x12	—	25	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR54C	18P, 18JW, 18SO, 20SS
PIC16C55	768	512x12	—	24	20	20	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	—	28P, 28JW, 28SP, 28SO, 28SS
PIC16C55A*	768	512x12	—	24	20	20	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	—	28P, 28JW, 28SP, 28SO, 28SS
PIC16C56	1536	1024x12	—	25	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	—	18P, 18JW, 18SO, 20SS
PIC16C56A	1536	1024x12	—	25	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR56A	18P, 18JW, 18SO, 20SS
PIC16C57	3072	2048x12	—	72	20	20	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	—	28P, 28JW, 28SP, 28SO, 28SS
—	3072 (ROM)	2048x12	—	72	20	20	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR57B	28P, 28JW, 28SP, 28SO, 28SS
PIC16C57C*	3072	2048x12	—	72	20	20	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR57C*	28P, 28JW, 28SP, 28SO, 28SS
PIC16C58A	3072	2048x12	—	73	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR58A	18P, 18JW, 18SO, 20SS
PIC16C58B	3072	2048x12	—	73	20	12	—	—	—	—	—	1+WDT	—	20mA source and 25mA sink per I/O	PIC16CR58B	18P, 18JW, 18SO, 20SS
PIC16C505	1536	1024x12	—	72	20	12	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	14P, 14SL
PIC16HV540*	768	512x12	—	25	20	12	—	—	—	Yes	—	1+WDT	—	High voltage I/Os, deeper stack	—	18P, 18SO, 20SS
PIC16CXXX — 4–12 INTERRUPTS, 200NS INSTRUCTION EXECUTION, 35 INSTRUCTIONS, UPWARDLY COMPATIBLE WITH PIC16C5X																
PIC14C000	7168	4096x14	—	192	20	20	8 SLAC	I^2C™/SMB	—	—	2	2+WDT	Yes	25mA source/sink, temperature sensor, bandgap voltage reference, internal oscillator, programmable reference generator	—	28SP, 28SO, 28SS, 28JW
PIC16C554	896	512x14	—	80	20	13	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O	—	18P, 18SO, 20SS, 18JW
PIC16C558	3584	2048x14	—	128	20	13	—	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O	—	18P, 18SO, 20SS, 18JW
PIC16C61	1792	1024x14	—	36	20	13	—	—	—	—	—	1+WDT	Yes	20mA source and 25mA sink per I/O	—	18P, 18SO, 18JW
PIC16C62A	3584	2048x14	—	128	20	22	—	I^2C/SPI™	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	PIC16CR62	28SP, 28SO, 28SS, 28JW
PIC16C62B*	3584	2048x14	—	128	20	22	—	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28SP, 28SO, 28SS, 28JW
PIC16C63	7168	4096x14	—	192	20	22	—	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28SP, 28SO, 28JW
PIC16C63A	7168	4096x14	—	192	20	22	—	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	PIC16CR63	28SP, 28SO, 28JW
PIC16C64A	3584	2048x14	—	128	20	33	—	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Parallel Slave Port, Capture/Compare/PWM	PIC16CR64	40P, 40JW, 44L, 44PQ, 44PT
PIC16C65A	7168	4096x14	—	192	20	33	—	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Parallel Slave Port, 2 Capture/Compare/PWM	—	40P, 40JW, 44L, 44PQ, 44PT
PIC16C65B	7168	4096x14	—	192	20	33	—	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Parallel Slave Port, 2 Capture/Compare/PWM	PIC16CR65	40P, 40JW, 44L, 44PQ, 44PT
PIC16C66	14336	8192x14	—	368	20	22	—	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28SP, 28SO, 28JW
PIC16C67	14336	8192x14	—	368	20	33	—	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM, Parallel Slave Port	—	40P, 40JW, 44L, 44PQ, 44PT

*Contact Microchip Technology for availability date.

PICmicro™ 8-BIT MICROCONTROLLER FAMILY

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PIC16CXXX — 4–12 INTERRUPTS, 200NS INSTRUCTION EXECUTION, 35 INSTRUCTIONS, UPWARDLY COMPATIBLE WITH PIC16C5X (CONTINUED)																
PIC16C620	896	512x14	—	80	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16C620A*	896	512x14	—	96	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	PIC16CR620A*	18P, 18SO, 20SS, 18JW
PIC16C621	1792	1024x14	—	80	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16C621A	1792	1024x14	—	96	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16C622	3584	2048x14	—	128	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16C622A	3584	2048x14	—	128	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16CE623	896	512x14	128	96	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16CE624	1792	1024x14	128	96	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16CE625	3584	2048x14	128	128	20	13	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	18P, 18SO, 20SS, 18JW
PIC16C642	7168	4096x14	—	176	20	22	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF	—	28SP, 28SO, 28JW
PIC16C662	7168	4096x14	—	176	20	33	—	—	—	Yes	2	1+WDT	Yes	25mA source/sink per I/O, programmable VREF, Parallel Slave Port	—	40P, 40JW, 44L, 44PQ, 44PT
PIC16C710	896	512x14	—	36	20	13	4	—	—	Yes	—	1+WDT	Yes	25mA source/sink per I/O	—	18P, 18SO, 20SS, 18JW
PIC16C71	1792	1024x14	—	36	20	13	4	—	—	—	—	1+WDT	Yes	20mA source/sink per I/O	—	18P, 18SO, 18JW
PIC16C711	1792	1024x14	—	68	20	13	4	—	—	Yes	—	1+WDT	Yes	25mA source/sink per I/O	—	18P, 18SO, 20SS, 18JW
PIC16C715	3584	2048x14	—	128	20	13	4	—	—	Yes	—	1+WDT	Yes	25mA source/sink per I/O	—	18P, 18SO, 20SS, 18JW
PIC16C72	3584	2048x14	—	128	20	22	5	I²C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28SP, 28SO, 28JW, 28SS
PIC16C72A	3584	2048x14	—	128	20	22	5	I²C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	PIC16CR72	28SP, 28SO, 28JW, 28SS
PIC16C73A	7168	4096x14	—	192	20	22	5	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, 2 Capture/Compare/PWM	—	28SP, 28SO, 28JW
PIC16C73B	7168	4096x14	—	192	20	22	5	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, 2 Capture/Compare/PWM	—	28SP, 28SO, 28JW, 28SS
PIC16C74A	7168	4096x14	—	192	20	33	8	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Parallel Slave Port, 2 Capture/Compare/PWM	—	40P, 40JW, 44L, 44PQ, 44PT
PIC16C74B	7168	4096x14	—	192	20	33	8	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Parallel Slave Port, 2 Capture/Compare/PWM	—	40P, 40JW, 44L, 44PQ, 44PT
PIC16C773*	7168	4096x14	—	256	20	22	6 (12-Bit)	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, 2 Capture/Compare/PWM, VREF, LVD, Programmable Brown-out Detection	—	28SP, 28SO, 28SS, 28JW
PIC16C774*	7168	4096x14	—	256	20	33	10 (12-Bit)	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, 2 Capture/Compare/PWM, Parallel Slave Port, VREF, LVD, Programmable Brown-out Detection	—	40P, 40JW, 44L, 44PT
PIC16C76	14336	8192x14	—	368	20	22	5	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28SP, 28SO, 28JW
PIC16C77	14336	8192x14	—	368	20	33	8	USART/ I²C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM, Parallel Slave Port	—	40P, 40JW, 44L, 44PQ, 44PT
PIC16F83	896 (Flash)	512x14 (Flash)	64	36	10	13	—	—	—	—	—	1+WDT	Yes	20mA source and 25mA sink per I/O, 64 bytes data EEPROM, 2.0V Operation	PIC16CR83	18P, 18SO
PIC16F84	1792 (Flash)	1024x14 (Flash)	64	68	10	13	—	—	—	—	—	1+WDT	Yes	20mA source and 25mA sink per I/O, 64 bytes data EEPROM, 2.0V Operation	PIC16CR84	18P, 18SO
PIC16F84A*	1792 (Flash)	1024x14 (Flash)	64	68	10	13	—	—	—	—	—	1+WDT	Yes	20mA source and 25mA sink per I/O, 64 bytes data EEPROM, 2.0V Operation	—	18P, 18SO, 20SS
PIC16C923	7168	4096x14	—	176	8	52	—	I²C/SPI	1	—	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM, LCD module, static, 1/2, 1/3, 1/4 multiplex	—	64SP, 68L, 64PT
PIC16C924	7168	4096x14	—	176	8	52	5	I²C/SPI	1	—	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM, LCD module, static, 1/2, 1/3, 1/4 multiplex	—	64SP, 68CL, 68L, 64PT

Abbreviation:

ADC = Analog-to-Digital Converter
CAP = Capture
CCP = Capture/Compare/PWM
DAC = Digital-to-Analog Converter
E2 = EEPROM (Reprogrammable)
I²C = Inter-integrated Circuit Bus
LVD = Low Voltage Detection
PWM = Pulse Width Modulator
SLAC = Slope A/D Converter, up to 16 bits
SMB = System Management Bus
SPI = Serial Peripheral Interface
USART = Universal Synchronous/Asynchronous Receiver/Transmitter
WDT = Watchdog Timer

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PICmicro™ 8-BIT MICROCONTROLLER FAMILY

Product	Program Memory OTP Bytes	Program Memory OTP Words	E^2PROM Data Memory	Data RAM Bytes	Max. Speed MHz	I/O Ports	ADC 8-Bits	Serial I/O	PWM	Brown-Out Detection	Compar-ators	Timers	ICSP™	Other Features	ROM Equivalent	Packages
PIC17CXXX — 120NS INSTRUCTION EXECUTION INCLUDING MULTIPLY, 58 INSTRUCTIONS, UPWARDLY COMPATIBLE WITH PIC16CXX/PIC16C5X																
PIC17C42A	4096	2048x16	—	232	33	33	—	USART	2	—	—	4+WDT	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, externally expandable, 1 cycle 8x8 multiply	PIC17CR42	40P, 40JW, 44L, 44PQ, 44PT
PIC17C43	8192	4096x16	—	454	33	33	—	USART	2	—	—	4+WDT	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, externally expandable, 1 cycle 8x8 multiply	PIC17CR43	40P, 40JW, 44L, 44PQ, 44PT
PIC17C44	16384	8192x16	—	454	33	33	—	USART	2	—	—	4+WDT	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, externally expandable, 1 cycle 8x8 multiply	—	40P, 40JW, 44L, 44PQ, 44PT
PIC17C752	16384	8192x16	—	678	33	50	12 (10-Bit)	USART (2), I^2C/SPI	3	Yes	—	4+WDT	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, externally expandable, 1 cycle 8x8 multiply	—	68L, 64PT
PIC17C756	32768	16384x16	—	902	33	50	12 (10-Bit)	USART (2), I^2C/SPI	3	Yes	—	4+WDT	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, externally expandable, 1 cycle 8x8 multiply	—	68CL, 68L, 64PT
PIC17C756A*	32768	16384x16	—	902	33	50	12 (10-Bit)	USART (2), I^2C/SPI	3	Yes	—	4+WDT	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, externally expandable, 1 cycle 8x8 multiply	—	68CL, 68L, 64PT
PIC17C762	16384	8192x16	—	678	33	66	16 (10-Bit)	USART (2), I^2C/SPI	3	Yes	—	4+WDT	Yes	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, externally expandable, 1 cycle 8x8 multiply	—	84L, 80PT
PIC17C766	32768	16384x16	—	902	33	66	16 (10-Bit)	USART (2), I^2C/SPI	3	Yes	—	4+WDT	Yes	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, externally expandable, 1 cycle 8x8 multiply	—	84CL, 84L, 80PT

Abbreviation:

ADC = Analog-to-Digital Converter
CAP = Capture
CCP = Capture/Compare/PWM
DAC = Digital-to-Analog Converter
E2 = EEPROM (Reprogrammable)
I^2C = Inter-integrated Circuit Bus
LVD = Low Voltage Detection
PWM= Pulse Width Modulator
SLAC = Slope A/D Converter, up to 16 bits
SMB = System Management Bus
SPI = Serial Peripheral Interface
USART = Universal Synchronous/Asynchronous Receiver/Transmitter
WDT = Watchdog Timer

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SECURE DATA PRODUCTS

Product	Transmission Code Length Bits	Code Hopping Bits	Programmable Encryption Key Bits	Seed Length	Operating Voltage	Function	Other Features	Packages
KEELOQ® ENCODER DEVICES								
HCS160*	66	32	64	—	2.5V to 13.0V	7	Code hopping and fixed code encoder. Sensor mode, automatic transmission	8P, 8SN
HCS200	66	32	64	32	3.5V to 13.0V	7	Entry Level, Fixed Code Support, Battery Low Indicator	8P, 8SN
HCS201*	66	32	64	32	3.5V to 13.0V	7	Entry Level, Fixed Code Support, Battery Low Indicator	8P, 8SN
HCS300	66	32	64	32	2.0V to 6.3V	15	LED Drive, Overflow bits, Time-out, Battery Low Indicator	8P, 8SN
HCS301	66	32	64	32	3.5V to 13.0V	15	Same as HCS300	8P, 8SN
HCS360	67	32	64	48	2.0V to 6.6V	15	IR Mode, PWM and Manchester Coding, 2 independent counters, 2-Bit CRC	8P, 8SN
HCS361	67	32	64	48	2.0V to 6.6V	15	IR Mode, PWM and VPWM Coding, 2 independent counters, 2-Bit CRC	8P, 8SN
HCS410	69	32	64	60	2.0V to 6.6V	7	Self-powered transponder, superset of HCS360	8P, 8SN, 8ST
HCS412*	69	32	64	60	2.0V to 6.6V	7	Passive Entry Encoder	8P, 8SN, 8ST

Product	Reception Length Bits	Encoders Supported	Transmitters Supported	Operating Voltage	Functions	Other Features	Packages
KEELOQ DECODER DEVICES							
HCS500	67	HCS200, HCS300, HCS301, HCS360, HCS361, HCS410	Up to 7	4.5V to 5.5V	15 Serial Functions	Full-featured decoder with serial interface to microcontrollers	8P, 8SM
HCS512	67	HCS200, HCS300, HCS301, HCS360, HCS361, HCS410	Up to 4	3.0V to 6.0V	15 (S0, S1, S2, S3); VLOW, Serial	Single-chip decoder with secure learning	18P, 18SO
HCS515	67	HCS200, HCS300, HCS301, HCS360, HCS361, HCS410	Up to 7	4.5V to 5.5V	15 Serial 3 (S1, S0) Parallel	Full-featured decoder with serial and parallel interface. On-chip 1K transmitter and 1K user EEPROM.	14P, 14SL

Product	Token Units	Cryptographic Key Length	Signature Challenge	Signature Response	User Programmable Area	Operating Voltage	Other Features	Packages
KEELOQ SMART CARD DEVICES								
SCS152	33352	64-bit	32 bits	8 bits	40 bits	4.75V to 5.25V	ISO 7816-3:1989 compliant prepay/disposable card	Die

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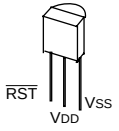
MICROPERIPHERAL PRODUCTS

Product	V_{CC} Range	Reset	Output	Typical T_{RPU}	Typical I_{DD}	Temperature	Packages	TO-92 Bond Options
*PRECISION SYSTEM SUPERVISOR PRODUCTS**								
MCP100	1.0V - 5.5V	Active Low	CMOS Push-Pull	350ms	45µA	-40° to +85°C	T0-92, SOT-23-3	D, H
MCP101	1.0V - 5.5V	Active High	CMOS Push-Pull	350ms	45µA	-40° to +85°C	T0-92, SOT-23-3	D, H
MCP120	1.0V - 5.5V	Active Low	Open Drain	350ms	45µA	-40° to +85°C	T0-92, SOT-23-3, SN	D, G, H
MCP130	1.0V - 5.5V	Active Low	Open Drain W/5K ohm Pull-Up	350ms	45µA	-40° to +85°C	T0-92, SOT-23-3, SN	D, F, H

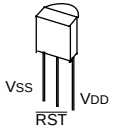
*Trip point for all parts

Min.	Max.
2.55	2.70
2.85	3.00
3.00	3.15
4.25	4.50
4.35	4.60
4.50	4.75
4.60	4.85

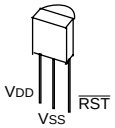
TO-92 with 'D' Bondout



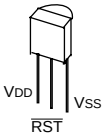
TO-92 with 'F' Bondout



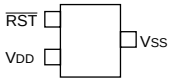
TO-92 with 'G' Bondout



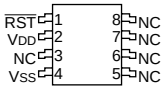
TO-92 with 'H' Bondout



SOT-23-3



150mil SOIC



SERIAL ELECTRICALLY ERASABLE PROMs (EEPROM)

Product	E/W Cycles	Density (Organization)	Write Speed	Max. Clock Freq.	Operating Voltage	Unique Features	Packages
3-WIRE SERIAL EEPROM FAMILY							
93C46B	1M	1K bits (x16)	2 ms	2 MHz	4.5V to 5.5V	All devices listed in this group are recommended for extended temperature applications only. All other applications should use 93LCx6A/B devices.	P, SN, SM, ST
93C56A	1M	2K bits (x8)	2 ms	2 MHz	4.5V to 5.5V		P, SN
93C56B	1M	2K bits (x16)	2 ms	2 MHz	4.5V to 5.5V		P, SN
93C66A	1M	4K bits (x8)	2 ms	2 MHz	4.5V to 5.5V		P, SN
93C66B	1M	4K bits (x16)	2 ms	2 MHz	4.5V to 5.5V		P, SN
93C76	10M	8K bits (x8 or x16)	5 ms	2 MHz	4.5V to 5.5V		P, SN
93C86	10M	16K bits (x8 or x16)	5 ms	2 MHz	4.5V to 5.5V		P, SN
93LC56	10M	2K bits (x8 or x16)	10 ms	2 MHz	2.0V to 6.0V	Not recommended for new designs.	P, SN, SM, SL
93LC66	10M	4K bits (x8 or x16)	10 ms	2 MHz	2.0V to 6.0V	Not recommended for new designs.	P, SN, SM, SL
93LC76	10M	8K bits (x8 or x16)	5 ms	2 MHz	2.0V to 6.0V		P, SN
93LC86	10M	16K bits (x8 or x16)	5 ms	2 MHz	2.0V to 6.0V		P, SN
93LC46A	1M	1K bits (x8)	5 ms	2 MHz	2.5V to 6.0V		P, SN, SM, ST
93LC56A	1M	2K bits (x8)	6 ms	2 MHz	2.5V to 6.0V		P, SN, SM, ST
93LC66A	1M	4K bits (x8)	6 ms	2 MHz	2.5V to 6.0V		P, SN, SM, ST
93LC46B	1M	1K bits (x16)	5 ms	2 MHz	2.5V to 6.0V		P, SN, SM, ST
93LC56B	1M	2K bits (x16)	6 ms	2 MHz	2.5V to 6.0V		P, SN, SM, ST
93LC66B	1M	4K bits (x16)	6 ms	2 MHz	2.5V to 6.0V		P, SN, SM, ST
93AA46	1M	1K bits (x8 or x16)	10 ms	2 MHz	1.8V to 5.5V		P, SN, SM
93AA56	10M	2K bits (x8 or x16)	10 ms	2 MHz	1.8V to 5.5V		P, SN, SM
93AA66	10M	4K bits (x8 or x16)	10 ms	2 MHz	1.8V to 5.5V		P, SN, SM
93AA76	10M	8K bits (x8 or x16)	5 ms	2 MHz	1.8V to 5.5V		P, SN
93AA86	10M	16K bits (x8 or x16)	5 ms	2 MHz	1.8V to 5.5V		P, SN
93LCS56	1M	2K (x16)	10 ms	2 MHz	2.5V to 6.0V	The "S" indicates software write protection of user defined memory space.	P,SN, SM, SL
93LCS66	1M	4K (x16)	10 ms	2 MHz	2.5V to 6.0V		P, SN, SM, SL
Special Features: Automatic ERAL before WRAL, self-timed erase and write cycle, power on/off data protection circuitry, sequential read function and industry standard 3-wire serial I/O							
*2-WIRE I^2C SERIAL EEPROM FAMILY**							
24C00	1M	128 bits (x8)	4 ms	400 kHz	4.5V to 5.5V	5-pin SOT-23 package.	P, SN, ST, OT
24LC00	1M	128 bits (x8)	4 ms	400 kHz	2.5V to 6.0V		P, SN, ST, OT
24AA00	1M	128 bits (x8)	4 ms	400 kHz	1.8V to 6.0V		P, SN, ST, OT
24C01C	1M	1K bits (x8)	1 ms	400 kHz	4.5V to 5.5V	The 24C01C, 24C02C and 24C04A are for applications which require fast byte write and/or extended temperature. I2C compatible. 3 address pins.	P, SN, ST
24C02C	1M	2K bits (x8)	1 ms	400 kHz	4.5V to 5.5V		P, SN, ST
24C04A	1M	4K bits (x8)	1 ms	100 kHz	4.5V to 5.5V		P, SN, SM, SL
24C01B	1M	1K bits (x8)	10 ms	100 kHz	4.5V to 5.5V	All 24CXXB versions in this section are for 5.0V extended temperature applications only. All other designs should use the 24LCXXB devices.	P, SN
24C02B	1M	2K bits (x8)	10 ms	100 kHz	4.5V to 5.5V		P, SN
24C08B	1M	8K bits (x8)	10 ms	100 kHz	4.5V to 5.5V		P, SN, SM, SL
24C16B	1M	16K bits (x8)	10 ms	100 kHz	4.5V to 5.5V		P, SN, SL
24LC01B	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Hardware write protect. Schmitt trigger inputs. 400kHz operation is @ 5.0V ± 10% and commercial grade. Also available in micromodule format for use in smart cards.	P, SN, SM, MT, MR
24LC02B	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, SM, MT, MR
24LC04B	1M	4K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, SM, SL, MT, MR
24LC08B	1M	8K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, SM, SL, MT, MR
24LC16B	1M	16K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, SM, SL, MT, MR

**The B version on the 2-wire (I^2C) devices designates: no functional address (A0, A1, A2) pins, 400 kHz operation, Schmitt trigger inputs for greater noise protection, longer byte write cycle time and larger input buffer.
Special Features: Self-timed write cycle and page write mode.

SERIAL ELECTRICALLY ERASABLE PROMs (EEPROM)

Product	E/W Cycles	Density (Organization)	Write Speed	Max. Clock Freq.	Operating Voltage	Unique Features	Packages
*2-WIRE I²C SERIAL EEPROM FAMILY** (CONTINUED)*							
24AA01	1M	1K bits (x8)	10 ms	400 kHz	1.8V to 5.5V	Hardware write protect. Schmitt trigger inputs. 400kHz operation is @ 5.0V± 10% and commercial temperature range (–40°C to 85°C).	P, SN, SM
24AA02	1M	2K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, SM
24AA04	1M	4K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, SM, SL
24AA08	1M	8K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, SM, SL
24AA16	1M	16K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, SM, SL
24LC32A	1M	32K bits (x8)	5 ms	400 kHz	2.5V to 5.5V	Industry standard addressable 32K bit I²C Serial EEPROM. Also available in micromodule format for use in smart cards.	SN, P, SM, MT, MR
24AA32A	1M	32K bits (x8)	5 ms	100 kHz	1.8V to 5.5V		SN, P, SM
24C32	10M/1M	32K bits (x8)	5 ms	400 kHz	4.5V to 5.5V	Incorporates a 4K high endurance block (not relocatable) to ensure 10,000,000 Erase/Write cycles, a 1 page by 8 line input cache (64 bytes) for fast write loads and is cascadable up to 8 parts. 1 MHz Maximum Clock Rate.	P, SM
24LC32	10M/1M	32K bits (x8)	5 ms	400 kHz	2.5V to 6.0V		P, SM
24AA32	10M/1M	32K bits (x8)	5 ms	100 kHz	1.8V to 6.0V		P, SM
24FC32	10M/1M	32K bits (x8)	5 ms	1 MHz	4.5V to 5.5V		P, SM
24LC64	1M	64K bits (x8)	5 ms	400 kHz	2.5V to 5.5V	32 byte page.	P, SN, SM, ST
24AA64	1M	64K bits (x8)	10 ms	100 kHz	1.8V to 5.5V		P, SN, SM, ST
24C65	10M/1M	64K bits (x8)	5 ms	400 kHz	4.5 to 5.5V	Relocatable 4K bit block of ultra high endurance memory to ensure 10,000,000 Erase/Write cycles, 1 page by 8 line input cache (64 bytes) for fast write loads, cascadable up to 512K bits, Erase/Write protection in 4K blocks. 1 MHz Maximum Clock Rate.	P, SM
24LC65	10M/1M	64K bits (x8)	5 ms	400 kHz	2.5 to 6.0V		P, SM
24AA65	10M/1M	64K bits (x8)	5 ms	100 kHz	1.8 to 6.0V		P, SM
24FC65	10M/1M	64K bits (x8)	5 ms	1 MHz	4.5V to 5.5V		P, SM
24LC128	100K	128K bits (x8)	5 ms	400 kHz	2.5V to 5.5V	64 byte page.	P, SN, SM
24AA128	100K	128K bits (x8)	10 ms	100 kHz	1.8V to 5.5V		P, SN, SM
24LC256	100K	256K bits (x8)	5 ms	400 kHz	2.5V to 5.5V	64 byte page.	P, SM
24AA256	100K	256K bits (x8)	10 ms	100 kHz	1.8V to 5.5V		P, SM
24LC164	10M	16K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Cascadable 16K-bit Serial EEPROM.	P, SN
24AA164	10M	16K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN
24LC174	10M	16K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Cascadable 16K-bit Serial EEPROM.	P, SN
24AA174	10M	16K bits (x8)	10 ms	400 kHz	1.8V to 5.5V	Specially addressed one-time-programmable (OTP) 16 byte security block.	P, SN
24C01SC	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Smart card specific memory devices. All devices meet ISO7816 pinout requirements.	S, W, WF
24C02SC	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		S, W, WF
24LC32SC	1M	32K bits (x8)	5 ms	400 kHz	2.5V to 5.5V		S, W, WF
24LC64SC	1M	64K bits (x8)	5 ms	400 kHz	2.5V to 5.5V		S, W, WF
24LC128SC	100K	128K bits (x8)	5 ms	400 kHz	2.5V to 5.5V		S, W, WF
24LC256SC	100K	256K bits (x8)	5 ms	400 kHz	2.5V to 5.5V		S, W, WF
**The B version on the 2-wire (I²C) devices designates: no functional address (A0, A1, A2) pins, 400 kHz operation, Schmitt trigger inputs for greater noise protection, longer byte write cycle time and larger input buffer. *Special Features:* Self-timed write cycle and page write mode.							
IDENTIFICATION PRODUCTS (APPLICATION-SPECIFIC PRODUCTS FOR MONITORS AND MEMORY MODULES)							
24LC21	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Completely implements DDC1™/DDC2™ interface for monitor identification.	P, SN
24LCS21	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Improved noise filter. Software enabled Hardware Write Protection pin.	P, SN
24LC21A	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Same as 24LC21 with return to DDC1 feature.	P, SN
24LCS21A	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Same as 24LCS21 with return to DDC1 feature.	P, SN
24LC41A	1M	1K and 4K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Dual Mode, Dual-Port device. Completely implements DDC1/DDC2 interface for monitor identification (DDC port). Also includes 4K bit MCU port.	P
24LC024	10M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Addressable, hardware write protection.	P, SN, ST
24LC025	10M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Addressable.	P, SN, ST
24LCS52	10M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Addressable, software write protection.	P, SN, ST
24LCS61	10M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Software addressable devices for board identification, software WP.	P, SN, ST
24LCS62	10M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Software addressable devices for board identification, software WP.	P, SN, ST
SPI™ SERIAL EEPROM FAMILY							
25C040	1M	4K bits (x8)	5 ms	3 MHz	4.5V to 5.5V	Supports SPI Modes 0, 3.	P, SN, ST
25C080	1M	8K bits (x8)	5 ms	3 MHz	4.5V to 5.5V		P, SN
25C160	1M	16K bits (x8)	5 ms	3 MHz	4.5V to 5.5V		P, SN
25C320	1M	32K bits (x8)	5 ms	3 MHz	4.5V to 5.5V		P, SN, 14ST
25LC040	1M	4K bits (x8)	5 ms	2 MHz	2.5V to 5.5V	Supports SPI Modes 0, 3.	P, SN, ST
25LC080	1M	8K bits (x8)	5 ms	2 MHz	2.5V to 5.5V		P, SN
25LC160	1M	16K bits (x8)	5 ms	2 MHz	2.5V to 5.5V		P, SN
25LC320	1M	32K bits (x8)	5 ms	2 MHz	2.5V to 5.5V		P, SN, 14ST
25LC640	100K	64K bits (x8)	5 ms	2 MHz	2.5V to 5.5V		P, SN, ST
25AA040	1M	4K bits (x8)	5 ms	1 MHz	1.8V to 5.5V	Supports SPI Modes 0, 3.	P, SN, ST
25AA080	1M	8K bits (x8)	5 ms	1 MHz	1.8V to 5.5V		P, SN
25AA160	1M	16K bits (x8)	5 ms	1 MHz	1.8V to 5.5V		P, SN
25AA640	100K	64K bits (x8)	5 ms	1 MHz	1.8V to 5.5V		P, SN, ST
Special Features: Page write mode, HOLD pin, software enabled block write protection and hardware write protect pin.							

PARALLEL ELECTRICALLY ERASABLE PROMs (EEPROM)

Product	Density (Organization)	Byte Write Time	Number of Pins	Packages	Unique Features
STANDARD SERIES					
28C04A	4K bits (x8)	1 ms	24 32	P L	
28C16A	16K bits (x8)	1 ms	24 32	P L	
28C17A	16K bits (x8)	1 ms	28 32	P, SO L	Ready/Busy Pin
28C64A	64K bits (x8)	1 ms	28 32	P, SO L	
28LV64A	64K bits (x8)	1 ms	28 32	P, SO L	Low voltage capability down to 3.0V
FAST BYTE WRITE SERIES					
28C04AF	4K bits (x8)	200 µs	24 32	P L	
28C16AF	16K bits (x8)	200 µs	24 32	P L	
28C17AF	16K bits (x8)	200 µs	28 32	P, SO L	Ready/Busy Pin
28C64AF	64K bits (x8)	200 µs	28 32	P, SO L	

Special Features: Access times of 150, 200, 250 ns (Except 28LV64A; Access Time = 300ns) and Commercial and Industrial Temperature Ranges.

ELECTRICALLY PROGRAMMABLE READ-ONLY MEMORY (EPROM)

Product	Size	Organization	Access Time (ns)	Operating Voltage	Packages	Temp. Range
STANDARD EPROM FAMILY						
27C64-25 27C64-20 27C64-17 27C64-15 27C64-12	64K bits 64K bits 64K bits 64K bits 64K bits	8Kx8 8Kx8 8Kx8 8Kx8 8Kx8	250 200 170 150 120	4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V	P, SO, L P, SO, L P, SO, L P, SO, L P, SO, L	C, I C, I C, I C, I C, I
27C128-25 27C128-20 27C128-17 27C128-15 27C128-12	128K bits 128K bits 128K bits 128K bits 128K bits	16Kx8 16Kx8 16Kx8 16Kx8 16Kx8	250 200 170 150 120	4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V	P, SO, L P, SO, L P, SO, L P, SO, L P, SO, L	C, I C, I C, I C, I C, I
27C256-20 27C256-15 27C256-12 27C256-10	256K bits 256K bits 256K bits 256K bits	32Kx8 32Kx8 32Kx8 32Kx8	200 150 120 100	4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V	P, SO, L P, SO, L P, SO, L P, SO, L	C, I, E C, I, E C, I C, I
27C512A-20 27C512A-15 27C512A-12 27C512A-10 27C512A-90	512K bits 512K bits 512K bits 512K bits 512K bits	64Kx8 64Kx8 64Kx8 64Kx8 64Kx8	200 150 120 100 90	4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V 4.5V to 5.5V	P, SO, L P, SO, L P, SO, L P, SO, L P, SO, L	C, I, E C, I, E C, I C, I C, I
27LV64-30 27LV64-25 27LV64-20	64K bits 64K bits 64K bits	8Kx8 8Kx8 8Kx8	300 250 200	3.0V to 5.5V 3.0V to 5.5V 3.0V to 5.5V	P, SO, L P, SO, L P, SO, L	C C C
27LV256-30 27LV256-25 27LV256-20	256K bits 256K bits 256K bits	32Kx8 32Kx8 32Kx8	300 250 200	3.0V to 5.5V 3.0V to 5.5V 3.0V to 5.5V	P, SO, L P, SO, L P, SO, L	C, I C, I C, I
SERIAL EPROM FAMILY						
37LV36 37LV65 37LV128	35K bits 64K bits 128K bits	1134x32 2048x32 4096x32	10 MHz clock 10 MHz clock 10 MHz clock	3.0V to 6.0V 3.0V to 6.0V 3.0V to 6.0V	P, SO, L P, SO, L P, SO, L	C, I C, I C, I

DEVELOPMENT SYSTEMS

*MPLAB™-ICE EMULATOR SYSTEMS**

Model Name / Part Number	Lead Count / Package Type	Hardware Tools			
		Emulator Pod	Processor Module	Device Adapters	Transistion Sockets
PIC12C508	8P, 8JW 8SM	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080	– TS08SO
PIC12C508A	8P, 8JW 8SM, 8SN	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080	– TS08SO
PIC12C509	8P, 8JW 8SM	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080	– TS08SO
PIC12C509A	8P, 8JW 8SM, 8SN	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080	– TS08SO
PIC12CE518	8P, 8JW 8SM, 8SN	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA12XP081 DVA12XP081	– TS08SO
PIC12CE519	8P, 8JW 8SM, 8SN	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA12XP081 DVA12XP081	– TS08SO
PIC12C671	8P, 8JW 8SM	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM12XA0 PCM12XA0	DVA12XP081 DVA12XP081	– TS08SO
PIC12C672	8P, 8JW 8SM	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM12XA0 PCM12XA0	DVA12XP081 DVA12XP081	– TS08SO
PIC12CE673	8P, 8JW	ICE1000 or ICE2000	PCM12XA0	DVA12XP081	–
PIC12CE674	8P, 8JW	ICE1000 or ICE2000	PCM12XA0	DVA12XP081	–
PIC14C000	28SP, 28JW 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM14XA0 PCM14XA0 PCM14XA0	DVA14XP280 DVA14XP280 DVA14XP280	– TS28SO TS28SS

Model Name / Part Number	Lead Count / Package Type	Hardware Tools			
		Emulator Pod	Processor Module	Device Adapters	Transistion Sockets
PIC16C505	14P 14SL	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA16XP140 DVA16XP140	– TS14SO
PIC16C52	18P 18SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180	– TS18SO
PIC16C54	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C54A	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C54C	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C55	28P, 28JW 28SP 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP280 DVA16XP280 DVA16XP280 DVA16XP280	Note 1 – TS28SO TS28SS
PIC16C55A	28P, 28JW 28SP 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP280 DVA16XP280 DVA16XP280 DVA16XP280	Note 1 – TS28SO TS28SS

Note 1: Indicates the need for Digi-Key Part #A504-ND (Aries Part #1107254-28) for 0.600 mil package support.
*Contact Microchip Technology Inc. for availability.

DEVELOPMENT SYSTEMS

MPLAB-ICE EMULATOR SYSTEMS*

Model Name / Part Number	Lead Count / Package Type	Hardware Tools			
		Emulator Pod	Processor Module	Device Adapters	Transistion Sockets
PIC16C554	18P, 18JW 18SO 18SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C558	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C56	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C56A	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C57	28P, 28JW 28SP 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP280 DVA16XP280 DVA16XP280 DVA16XP280	Note 1 – TS28SO TS28SS
PIC16C57C	28P, 28JW 28SP 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP280 DVA16XP280 DVA16XP280 DVA16XP280	Note 1 – TS28SO TS28SS
PIC16C58A	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C58B	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C62A	28SP, 28JW 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP281 DVA16XP281 DVA16XP281	– TS28SO TS28SS
PIC16C62B	28SP, 28JW 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP281 DVA16XP281 DVA16XP281	– TS28SO TS28SS
PIC16C620	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C620A	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C621	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C621A	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C622	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C622A	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16CE623	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16CE624	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16CE625	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS

Model Name / Part Number	Lead Count / Package Type	Hardware Tools			
		Emulator Pod	Processor Module	Device Adapters	Transistion Sockets
PIC16C63	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C63A	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C64A	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C642	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XD0 PCM16XD0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C65A	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C65B	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0 PCM16XE0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C66	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C662	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XD0 PCM16XD0 PCM16XD0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C67	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0 PCM16XE0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C71	18P, 18JW 18SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XF0 PCM16XF0	DVA16XP180 DVA16XP180	– TS18SO
PIC16C710	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XF0 PCM16XF0 PCM16XF0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C711	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XF0 PCM16XF0 PCM16XF0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C715	18P, 18JW 18SO 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XG0 PCM16XG0 PCM16XG0	DVA16XP180 DVA16XP180 DVA16XP180	– TS18SO TS20SS
PIC16C72	28SP, 28JW 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP281 DVA16XP281 DVA16XP281	– TS28SO TS28SS
PIC16C72A	28SP, 28JW 28SO 28SS	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP281 DVA16XP281 DVA16XP281	– TS28SO TS28SS
PIC16C73A	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C73B	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C74A	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XB0 PCM16XB0 PCM16XB0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C74B	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0 PCM16XE0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT
PIC16C76	28SP, 28JW 28SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0	DVA16XP281 DVA16XP281	– TS28SO
PIC16C77	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XE0 PCM16XE0 PCM16XE0	DVA16XP400 DVA16XL440 DVA16PQ440	– – TS44PT

Note 1: Indicates the need for Digi-Key Part #A504-ND (Aries Part #1107254-28) for 0.600 mil package support.
*Contact Microchip Technology Inc. for availability.

DEVELOPMENT SYSTEMS

MPLAB-ICE EMULATOR SYSTEMS*

Model Name / Part Number	Lead Count / Package Type	Hardware Tools			
		Emulator Pod	Processor Module	Device Adapters	Transistion Sockets
PIC16F83	18P 18SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XH0 PCM16XH0	DVA16XP180 DVA16XP180	– TS18SO
PIC16F84	18P 18SO	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XH0 PCM16XH0	DVA16XP180 DVA16XP180	– TS18SO
PIC16F84A	18P 18SO, 20SS	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XH0 PCM16XH0	DVA16XP180 DVA16XP180	– TS18SO
PIC16C923	64SP 68L 64PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XJ0 PCM16XJ0 PCM16XJ0	DVA16XP640 DVA16XL680 DVA16PQ640	– – TS64PT
PIC16C924	64SP 68L, 68CL 64PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM16XJ0 PCM16XJ0 PCM16XJ0	DVA16XP640 DVA16XL680 DVA16PQ640	– – TS64PT
PIC17C42A	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0 PCM17XA0	DVA17XP400 DVA17XL440 DVA17PQ440	– – TS44PT
PIC17C43	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0 PCM17XA0	DVA17XP400 DVA17XL440 DVA17PQ440	– – TS44PT
PIC17C44	40P, 40JW 44L 44PQ, 44PT	ICE1000 or ICE2000 ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0 PCM17XA0	DVA17XP400 DVA17XL440 DVA17PQ440	– – TS44PT
PIC17C752	68L 64PT	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0	DVA17XL680 DVA17PQ640	– TS64PT
PIC17C756	68L 64PT	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0	DVA17XL680 DVA17PQ640	– TS64PT
PIC17C756A	68L 64PT	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0	DVA17XL680 DVA17PQ640	– TS64PT
PIC17C762	84L 80PT	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0	DVA17XL840 DVA17PQ800	– TS80PT
PIC17C766	84L, 84CL 80PT	ICE1000 or ICE2000 ICE1000 or ICE2000	PCM17XA0 PCM17XA0	DVA17XL840 DVA17PQ800	– TS80PT

Note 1: Indicates the need for Digi-Key Part #A504-ND (Aries Part #1107254-28) for 0.600 mil package support.
*Contact Microchip Technology Inc. for availability.

ICEPIC EMULATOR SYSTEMS

Model Name / Part Number	ICEPIC System	ICEPIC Daughter Board
PIC12C508 (*)	EM167201	AC165201
PIC12C509 (*)	EM167201	AC165201
PIC14C000	N/A	N/A
PIC16C52	EM167201	AC165201
PIC16C54	EM167201	AC165201
PIC16C54A	EM167201	AC165201
PIC16C55	EM167201	AC165201
PIC16C554	EM167208	AC165208
PIC16C558	EM167208	AC165208
PIC16C56	EM167201	AC165201
PIC16C57	EM167201	AC165201
PIC16C58A	EM167201	AC165201
PIC16C61	EM167211	AC165211
PIC16C620	EM167202	AC165202
PIC16C621	EM167202	AC165202
PIC16C622	EM167202	AC165202
PIC16C62A	EM167207	AC165207
PIC16C63	EM167207	AC165207
PIC16C642	EM167213	AC165213
PIC16C64A	EM167207	AC165207
PIC16C65A	EM167207	AC165207
PIC16C66	EM167214	AC165214
PIC16C662	EM167213	AC165213
PIC16C67	EM167214	AC165214
PIC16C71	EM167211	AC165211
PIC16C710	EM167211	AC165211
PIC16C711	EM167211	AC165211
PIC16C715	EM167215	AC165215
PIC16C72	EM167207	AC165207
PIC16C73A	EM167207	AC165207
PIC16C74A	EM167207	AC165207
PIC16C76	EM167214	AC165214
PIC16C77	EM167214	AC165214
PIC16C923	EM167210	AC165210
PIC16C924	EM167210	AC165210

* ICEPIC PIC12CXXX emulation support also requires the use of a kit daughter board adapter AC122002.

DEVELOPMENT SYSTEMS

	PIC12CXXX	PIC14C000	PIC16C5X	PIC16C6X	PIC16CXXX	PIC16C7X	PIC16C7XX	PIC16C8X	PIC16C9XX	PIC17CXXX	24CXX/25CXX/93CXX	HCSXXX
SOFTWARE TOOLS												
MPLAB™ Integrated Development Environment	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	—	—
PIC C (HI-TECH C Compiler)	***	***	***	***	***	***	***	***	***	—	—	—
MPLAB-C17 Compiler	—	—	—	—	—	—	—	—	—	SW006010	—	—
*fuzzy*TECH®-MP Explorer Fuzzy Logic Development Tool	DV005001	DV005001	DV005001	DV005001	DV005001	DV005001	DV005001	DV005001	DV005001	DV005001	—	—
*fuzzy*TECH-MP Edition Fuzzy Logic Development Tool	DV005002	DV005002	DV005002	DV005002	DV005002	DV005002	DV005002	DV005002	DV005002	DV005002	—	—
Total Endurance™ Software Model	—	—	—	—	—	—	—	—	—	—	SW242001	—
PROGRAMMERS												
PICSTART® Plus Low-Cost Development Kit	DV003001**	DV003001	DV003001	DV003001	DV003001	DV003001	DV003001	DV003001	DV003001	DV003001	—	—
PRO MATE® II Universal Programmer	DV007003	DV007003	DV007003	DV007003	DV007003	DV007003	DV007003	DV007003	DV007003	DV007003	DV007003**	DV007003**
ICSP™ Programming Socket for PRO MATE II	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004	AC004004
KEELOQ® Programmer	—	—	—	—	—	—	—	—	—	—	—	PG306001
DEMONSTRATION BOARDS												
Serial EEPROM Designer's Kit (SEEVAL®)	—	—	—	—	—	—	—	—	—	—	DV243001	—
SIMICE Hardware Simulator Kit	DV162010	—	DV162010	—	—	—	—	—	—	—	—	—
PICDEM-1	—	—	DM163001	DM163001 (PIC16C61 only)	DM163001**	—	—	—	—	DM163001**	—	—
PICDEM-2	—	—	—	DM163002**	—	DM163002**	—	—	—	—	—	—
PICDEM-3	—	—	—	—	—	—	—	—	DM163003	—	—	—
PICDEM-14A	—	DM143001	—	—	—	—	—	—	—	—	—	—
PICDEM-17 Development Kit*	—	—	—	—	—	—	—	—	—	DM173001	—	—
KEELOQ Evaluation Kit	—	—	—	—	—	—	—	—	—	—	—	DM303002
KEELOQ Transponder Evaluation Kit	—	—	—	—	—	—	—	—	—	—	—	DM303003

* Contact Microchip Technology Inc. for availability date.
** Development tool is available on select devices. Please refer to the Microchip Development Systems Ordering Guide for device-specific ordering numbers and more information.
*** HI-TECH Software LLC Telephone 1-800-735-5715 U.S.A., Telephone 61 7 3354 2411 Australia or Web Site www.htsoft.com.

MICROCHIP TECHNOLOGY INC. FUTURE PRODUCTS GUIDE* (As of October 1998)

Product	Program Memory OTP Bytes	Program Memory OTP Words	E^2PROM Data Memory	Data RAM Bytes	Max. Speed MHz	I/O Ports	ADC 8-Bits	Serial I/O	PWM	Brown-Out Detection	Comparators	Timers	ICSP™	Other Features	ROM Equivalent	Packages
*PICmicro CMOS OTP 8-BIT MICROCONTROLLERS**																
PIC18C242	16384	8192x16	—	512	40	22	5	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	Improved Clock Generation	—	28P, 28SO, 28JW
PIC18C442	16384	8192x16	—	512	40	33	8	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	Parallel Slave Port, Improved Clock Generation	—	40P, 40JW, 44L, 44PT
PIC18C252	32768	16384x16	—	1536	40	22	5	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	Improved Clock Generation	—	28P, 28SO, 28JW
PIC18C452	32768	16384x16	—	1536	40	33	8	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	Parallel Slave Port, Improved Clock Generation	—	40P, 40JW, 44L, 44PT
PIC18C641	16384	8192x16	—	1024	33	50	5	USART/ I^2C/SPI	3	Yes	—	4+WDT	Yes	CAN 2.0B, Parallel Slave Port, Improved Clock Generation	—	64SP, 68CL, 68L, 64PT
PIC16C717**	3584	2048x14	—	128	20	16	6	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM, VREF, LVD	—	18P, 18SO, 18JW, 20SS
PIC16C770**	3584	2048x14	—	128	20	16	6 (12-Bit)	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM, VREF, LVD	—	20P, 20SO, 20JW, 20SS
PIC16C771**	7168	4096x14	—	256	20	16	6 (12-Bit)	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM, VREF, LVD	—	20P, 20SO, 20JW, 20SS
PIC16C772	3584	2048x14	—	128	20	22	6 (12-Bit)	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, 2 Capture/Compare/PWM, VREF, LVD, Programmable Brown-out Detection	—	28P, 28SO, 28SS, 28JW

*Contact Microchip Technology for availability date. **Product name changed from previous version.

MICROCHIP TECHNOLOGY INC. FUTURE PRODUCTS GUIDE* (As of October 1998)

Product	Program Memory OTP Bytes	Program Memory OTP Words	E^2PROM Data Memory	Data RAM Bytes	Max. Speed MHz	I/O Ports	ADC 8-Bits	Serial I/O	PWM	Brown-Out Detection	Comparators	Timers	ICSP™	Other Features	ROM Equivalent	Packages
PICmicro ENHANCED FLASH 8-BIT MICROCONTROLLERS*																
PIC12F675	1792 (Flash)	1024 x 14 (Flash)	16	128	10	6	4	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM
PIC12F676	3584 (Flash)	2048 x 14 (Flash)	16	128	10	6	4	—	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM
PIC12F640	896 (Flash)	512 x 14 (Flash)	16	128	10	6	—	SSI	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM
PIC12F641	1792 (Flash)	1024 x 14 (Flash)	16	128	10	6	—	SSI	—	—	—	1+WDT	Yes	25mA source/sink per I/O, internal oscillator	—	8P, 8SM
PIC16F627	1792 (Flash)	1024 x 14 (Flash)	128	128	20	16	—	USART/SCI	1	Yes	2	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM	—	18P, 18SO, 20SS
PIC16F628	3584 (Flash)	2048 x 14 (Flash)	128	128	20	16	—	USART/SCI	1	Yes	2	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM	—	18P, 18SO, 20SS
PIC16F716	3584 (Flash)	2048 x 14 (Flash)	128	128	20	16	4	—	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM	—	18P, 18SO, 20SS
PIC16F718	7168 (Flash)	4096 x 14 (Flash)	128	128	20	18	4	USART/SCI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, internal clock oscillator, Capture/Compare/PWM	—	20P, 20SO, 20SS
PIC16F872	3584 (Flash)	2048 x 14 (Flash)	64	128	20	22	5	I^2C/SPI	1	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28P, 28SO, 28SS
PIC16F873	7168 (Flash)	4096 x 14 (Flash)	128	192	20	22	5	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, 2 Capture/Compare/PWM	—	28P, 28SO
PIC16F874	7168 (Flash)	4096 x 14 (Flash)	128	192	20	33	8	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Parallel Slave Port, 2 Capture/ Compare/PWM	—	40P, 44L, 44PQ, 44PT
PIC16F876	14336 (Flash)	8192 x 14 (Flash)	256	368	20	22	5	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM	—	28P, 28SO
PIC16F877	14336 (Flash)	8192 x 14 (Flash)	256	368	20	33	8	USART/ I^2C/SPI	2	Yes	—	3+WDT	Yes	25mA source/sink per I/O, Capture/Compare/PWM, Parallel Slave Port	—	40P, 44L, 44PQ, 44PT

Abbreviation:

ADC = Analog-to-Digital Converter
CAP = Capture
CCP = Capture/Compare/PWM
DAC = Digital-to-Analog Converter
E2 = EEPROM (Reprogrammable)
I^2C = Inter-integrated Circuit Bus
LVD = Low Voltage Detection
PWM = Pulse Width Modulator
SLAC = Slope A/D Converter, up to 16 bits
SMB = System Management Bus
SPI = Serial Peripheral Interface
USART = Universal Synchronous/Asynchronous Receiver/Transmitter
WDT = Watchdog Timer

*Contact Microchip Technology for availability date. **Product name changed from previous version.

KEELOQ® ENCODER DEVICES*

Product	Transmission Length Bits	Code Hopping Bits	Programmable Encryption Key Bits	Seed Length	Operating Voltage	Functions	Other Features	Packages
HCS365	69	32	64	60	2.0V to 6.6V	4 X 15	PWM, VPWM, PPM, Manchester encoding, external or internal tunable oscillator	8P, 8SO, 8ST, 14P, 14SL

KEELOQ AUTHENTICATION AND TRANSPONDER DEVICES*

Product	Authentication Length Bits	Serial Number	Programmable Encryption Key Bits	User Memory EEPROM Bits	Operating Voltage	Functions	Other Features	Packages
HCS405	32 or 16	32	64	128	2.0V to 6.6V	Read, Write, IFF	PWM, PPM encoding, 1-wire interface	8P, 8SO, 8ST

*Contact Microchip Technology for availability date.

SERIAL EEPROMS*

Product	E/W Cycles	Density (Organization)	Write Speed	Max. Clock Freq.	Operating Voltage	Unique Features	Packages
24LC16SC	1M	16K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	ISO 7816 Die Layout.	Die, Wafers, Modules
25AA128 25LC128	100K 1OOK	128K bits (x8) 128K bits (x8)	5 ms 5 ms	1 MHz 5 MHz	1.8V to 5.5V 2.5V to 5.5V	SPI Protocol.	P, SN, ST P, SN, ST
25AA256 25LC256	1OOK 1OOK	256K bits (x8) 256K bits (x8)	5 ms 5 ms	1 MHz 5 MHz	1.8V to 5.5V 2.5V to 5.5V	SPI Protocol.	P, SN, ST P, SN, ST
24LCS16	1M	16K bits (x8)	10 ms	400 kHz	4.5V to 5.5V	Custom security regions.	Die, Wafers, Modules

*Contact Microchip Technology for availability date.
Special Features: Page write mode, HOLD pin, software enabled block write protection and hardware write protect pin.

PART NUMBER SUFFIX DESIGNATIONS

XXXXXXXXXX - XX X/XX XXX

QTP, SQTP or ROM Code; Special Requirements

Package:

L =	Plastic Leaded Chip Carrier (PLCC)	PT =	Plastic Thin Quad Flatpack (TQFP)
P =	Plastic DIP	SL =	14-lead Small Outline (150 mil)
S =	Die in Waffle Pack	SM =	8-lead Small Outline (207 mil)
W =	Die in Wafer Form	SN =	8-lead Small Outline (150 mil)
CB =	Chip on Board (COB)	SO =	Plastic Small Outline (SOIC) (300 mil)
CL=	Windowed CERQUAD	SP =	Plastic Skinny DIP
JW =	Windowed CERDIP	SS =	Plastic Shrink Small Outline (SSOP)
MR =	Micromodule in Tape and Reel	ST =	Thin Shrink Small Outline (4.4 mm)
MT =	Micromodule in Tray	TS =	Thin Small Outline (8mm x 20mm)
OT =	SOT-23	VS =	Very Small Outline (8mm x 12mm)
PQ =	Plastic Quad Flatpack (PQFP)	WF =	Sawed Wafer on Frame

Process Temperature:

Blank = 0°C to +70°C
I (Industrial) = –40°C to +85°C

E (Extended) = –40°C to +125°C

Speed:

-90 = 90 ns
-10 = 100 ns
-12 = 120 ns
-15 = 150 ns
-17 = 170 ns
-20 = 200 ns
-25 = 250 ns
-30 = 300 ns

Crystal Frequency Designator for PICmicro MCUs

LP = DC to 40 kHz, Low Power Crystal Oscillator
RC = DC to 4 MHz, Resistor/Capacitor Oscillator
XT = DC to 4 MHz, Standard Crystal Resonator Oscillator
HS = DC to 20 MHz, High Speed Crystal Oscillator
02 = DC to 2 MHz, XT and RC Oscillator Support
04 = DC to 4 MHz Internal, XT and RC Oscillator Support
04 = DC to 200 kHz, LP Oscillator Support
10 = DC to 10 MHz, HS Oscillator Support
16 = DC to 16 MHz, XT Oscillator Support
20 = DC to 20 MHz, HS Oscillator Support
25 = DC to 25 MHz, XT Oscillator Support
33 = DC to 33 MHz, XT Oscillator Support

Option:

T = Tape and Reel Shipments
Blank = twc = 1ms

F = twc = 200 µs
X = Rotated pinout

Device Type: (Up to 10 digits)

C =	CMOS EPROM MCU	HV =	High Voltage
CE =	CMOS EPROM/EEPROM MCU	LCS =	Low Power Security
LC =	Low Power CMOS EPROM MCU	24 =	2-Wire (I2C)
CR =	CMOS ROM MCU	25 =	SPI
LCR =	Low Power CMOS ROM MCU	93 =	3-Wire (Microwire®)
AA =	1.8V EEPROM Memory	PICXXCXXX =	PICmicro CMOS Microcontroller
LV =	Low Voltage	PICXXLCXXX =	PICmicro Low-Power CMOS Microcontroller
F =	Flash MCU	PICXXLVXXX =	PICmicro Low-Voltage CMOS Microcontroller
HC =	High Speed		

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