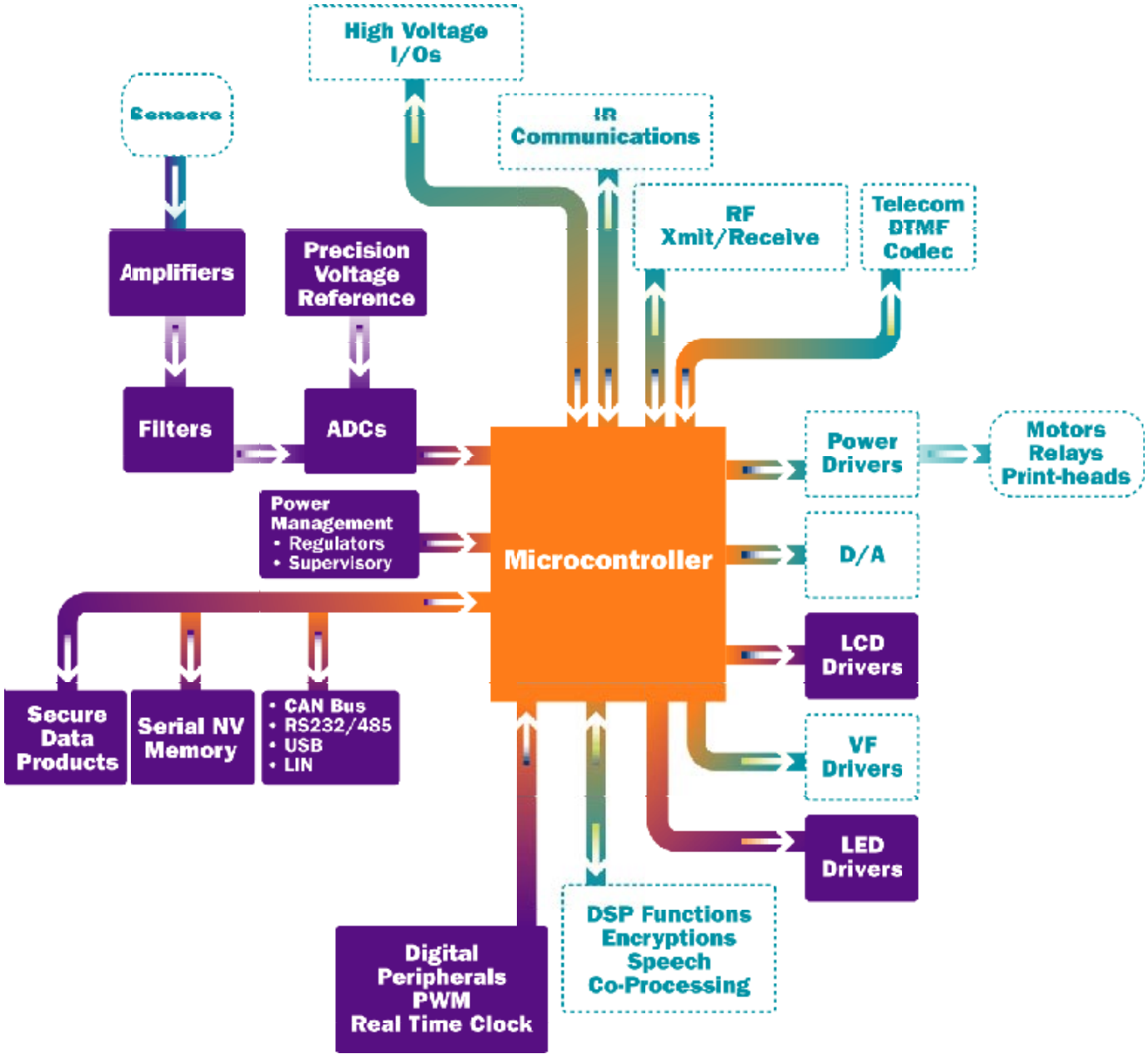
PRODUCT LINE CARD

Including Development Tools

FIRST QUARTER 2001



MICROCHIP

The Embedded Control Solutions Company®

CURRENT MICROCHIP PRODUCT LINE

PICmicro® MICROCONTROLLER FAMILY PRODUCTS

Product	Program Memory			EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital			MAX Speed MHz	ICSP™	BOR/ PBOR	PLVD	CCP/ ECCP	Other Features
	Bytes	OTP/FLASH Words	ROM Words					8-Bit ADC Channels	Comparators	PWM 10-Bit	Timers/WDT	Serial I/O						
PIC12CXXX: 400ns Instruction Execution, 33/35 Instructions, 8-Pin Package, 4MHz Internal Oscillator, 4/5 Oscillator Selections																		
PIC12C508A	768	512x12	—	—	25	6	8P, 8SM, 8JW, 8SN	—	—	—	1-8 bit, 1-WDT	—	4	✓	—	—	—	25mA source/sink per I/O
PIC12C509A	1536	1024x12	—	—	41	6	8P, 8SM, 8JW, 8SN	—	—	—	1-8 bit, 1-WDT	—	4	✓	—	—	—	25mA source/sink per I/O
PIC12CR509A	1536	—	1024x12	—	41	6	8P, 8SM, 8SN	—	—	—	1-8 bit, 1-WDT	—	4	—	—	—	—	25mA source/sink per I/O
PIC12CE518	768	512x12	—	16	25	6	8P, 8SM, 8JW, 8SN	—	—	—	1-8 bit, 1-WDT	—	4	✓	—	—	—	25mA source/sink per I/O
PIC12CE519	1536	1024x12	—	16	41	6	8P, 8SM, 8JW, 8SN	—	—	—	1-8 bit, 1-WDT	—	4	✓	—	—	—	25mA source/sink per I/O
PIC12C671	1792	1024x14	—	—	128	6	8P, 8SM, 8JW	4	—	—	1-8 bit, 1-WDT	—	10	✓	—	—	—	25mA source/sink per I/O
PIC12C672	3584	2048x14	—	—	128	6	8P, 8SM, 8JW	4	—	—	1-8 bit, 1-WDT	—	10	✓	—	—	—	25mA source/sink per I/O
PIC12CE673	1792	1024x14	—	16	128	6	8P, 8JW	4	—	—	1-8 bit, 1-WDT	—	10	✓	—	—	—	25mA source/sink per I/O
PIC12CE674	3584	2048x14	—	16	128	6	8P, 8JW	4	—	—	1-8 bit, 1-WDT	—	10	✓	—	—	—	25mA source/sink per I/O
PIC16C5X: 200ns Instruction Execution, 33 Instructions, 4/5 Oscillator Selections																		
PIC16C54C	768	512x12	—	—	25	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16CR54C	768	—	512x12	—	25	12	18P, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C55A	768	512x12	—	—	24	20	28P, 28JW, 28SP, 28SO, 28SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C56A	1536	1024x12	—	—	25	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16CR56A	1536	—	1024x12	—	25	12	18P, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C57C	3072	2048x12	—	—	72	20	28P, 28JW, 28SP, 28SO, 28SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16CR57C	3072	—	2048x12	—	72	20	28P, 28SP, 28SO, 28SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C58B	3072	2048x12	—	—	73	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16CR58B	3072	—	2048x12	—	73	12	18P, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C505	1536	1024x12	—	—	72	12	14P, 14JW, 14SL	—	—	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	25mA source/sink per I/O, 4MHz internal oscillator
PIC16HV540	768	512x12	—	—	25	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	✓	—	—	8 high voltage (15V) I/Os, 4 deep stack, 5 I/O with wake-up on change, Extended VDD (3.5 to 15 V)
PIC16CXXX: 4–12 Interrupts, 200ns Instruction Execution, 35 Instructions, 4/5 Oscillator Selections, Upwardly Compatible with PIC16C5X/PIC12CXXX																		
PIC14000	7168	4096x14	—	—	192	20	28SP, 28SO, 28SS, 28JW	8 SLAC	2	—	1-16 bit, 1-8 bit, 1-WDT	I²C™/SMB	20	✓	—	—	—	25mA source/sink, internal oscillator, temperature sensor, VREF, Prog. Reference Generator
PIC16C554	896	512x14	—	—	80	13	18P, 18SO, 18JW, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	25mA source/sink per I/O
PIC16C558	3584	2048x14	—	—	128	13	18P, 18SO, 18JW, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	25mA source/sink per I/O
PIC16C62B	3584	2048x14	—	—	128	22	28SP, 28SO, 28SS, 28JW	—	—	1	1-16 bit, 2-8 bit, 1-WDT	I²C/SPI	20	✓	✓	—	1	25mA source/sink per I/O
PIC16C63A	7168	4096x14	—	—	192	22	28SP, 28SO, 28SS, 28JW	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I²C/SPI	20	✓	✓	—	2	25mA source/sink per I/O
PIC16CR63	7168	—	4096x14	—	192	22	28SP, 28SO, 28SS	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I²C/SPI	20	—	✓	—	2	25mA source/sink per I/O
PIC16C65B	7168	4096x14	—	—	192	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I²C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP
PIC16CR65	7168	—	4096x14	—	192	33	40P, 44L, 44PQ, 44PT	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I²C/SPI	20	—	✓	—	2	25mA source/sink per I/O, PSP
PIC16C66	14336	8192x14	—	—	368	22	28SP, 28SO, 28JW	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I²C/SPI	20	✓	✓	—	2	25mA source/sink per I/O
PIC16C67	14336	8192x14	—	—	368	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I²C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP
PIC16C432*	3584	2048	—	—	128	12	20SS, 20P, 20JW	—	2	—	1-8 bit, 1-WDT	LIN	20	✓	✓	—	—	25mA source/sink per I/O, LIN XCVR
PIC16C433*	3584	2048	—	—	128	6	18SO, 18P, 18JW	4	—	—	1-8 bit, 1-WDT	LIN	20	✓	—	—	—	25mA source/sink per I/O, LIN XCVR, 4 MHz internal oscillator
PIC16C620A	896	512x14	—	—	96	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16CR620A	896	—	512x14		96	13	18P, 18SO,20SS		2	—	1-8 bit, 1-WDT	—	20	—	✓	—	—	Prog. VREF, 25mA source/sink per I/O

7-HOLE PUNCH HERE

PICmicro® MICROCONTROLLER FAMILY PRODUCTS

Product	Program Memory			EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital			MAX Speed MHz	ICSP™	BOR/ PBOR	PLVD	CCP/ ECCP	Other Features
	Bytes	OTP/FLASH Words	ROM Words					8-Bit ADC Channels	Comparators	PWM 10-Bit	Timers/WDT	Serial I/O						
PIC16CXXX: 4–12 Interrupts, 200ns Instruction Execution, 35 Instructions, 4/5 Oscillator Selections, Upwardly Compatible with PIC16C5X/PIC12CXXX (continued)																		
PIC16C621A	1792	1024x14	—	—	96	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16C622A	3584	2048x14	—	—	128	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16CE623	896	512x14	—	128	96	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16CE624	1792	1024x14	—	128	96	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16CE625	3584	2048x14	—	128	128	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16F627	1792 (FLASH)	1024x14 (FLASH)	—	128	224	16	18P, 18SO, 20SS	—	2	1	1-16 bit, 2-8 bit, 1-WDT	USART	20	✓	✓	—	1	Prog. VREF, 25mA source/sink per I/O, 4MHz internal clock oscillator, 9-bit
PIC16F628	3584 (FLASH)	2048x14 (FLASH)	—	128	224	16	18P, 18SO, 20SS	—	2	1	1-16 bit, 2-8 bit, 1-WDT	USART	20	✓	✓	—	1	Prog. VREF, 25mA source/sink per I/O, 4MHz internal clock oscillator, 9-bit
PIC16C642	7168	4096x14	—	—	176	22	28SP, 28SO, 28JW	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16C662	7168	4096x14	—	—	176	33	40P, 40JW, 44L, 44PQ, 44PT	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. VREF, 25mA source/sink per I/O
PIC16C710	896	512x14	—	—	36	13	18P, 18SO, 18JW, 20SS	4	—	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	25mA source/sink per I/O
PIC16C711	1792	1024x14	—	—	68	13	18P, 18SO, 18JW, 20SS	4	—	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	25mA source/sink per I/O
PIC16C712	1792	1024x14	—	—	128	13	18P, 18SO, 18JW, 20SS	4	—	1	1-16 bit, 2-8 bit, 1-WDT	—	20	✓	✓	—	1	25mA source/sink per I/O
PIC16C715	3584	2048x14	—	—	128	13	18P, 18SO, 18JW, 20SS	4	—	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	25mA source/sink per I/O
PIC16C716	3584	2048x14	—	—	128	13	18P, 18SO, 18JW, 20SS	4	—	1	1-16 bit, 2-8 bit, 1-WDT	—	20	✓	✓	—	1	25mA source/sink per I/O
PIC16C717	3584	2048x14	—	—	256	16	18P, 18SO, 18JW, 20SS	6 (10-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	MI^{2}C/SPI	20	✓	✓P	✓	1 ECCP	4MHz internal oscillator, VREF
PIC16C72A	3584	2048x14	—	—	128	22	28SP, 28SO, 28JW, 28SS	5	—	1	1-16 bit, 2-8 bit, 1-WDT	I^{2}C/SPI	20	✓	✓	—	1	25mA source/sink per I/O
PIC16CR72	3584	—	2048x14	—	128	22	28SP, 28SO, 28SS	5	—	1	1-16 bit, 2-8 bit, 1-WDT	I^{2}C/SPI	20	—	✓	—	1	25mA source/sink per I/O
PIC16C73B	7168	4096x14	—	—	192	22	28SP, 28SO, 28JW, 28SS	5	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O
PIC16F73*	7168 (FLASH)	4096x14 (FLASH)	—	—	192	22	28SP, 28SO, 28SS	5	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, Self-read
PIC16C74B	7168	4096x14	—	—	192	33	40P, 40JW, 44L, 44PQ, 44PT	8	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP
PIC16F74*	7168 (FLASH)	4096x14 (FLASH)	—	—	192	33	40P, 44L, 44PT	8	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP, Self-read
PIC16C76	14336	8192x14	—	—	368	22	28SP, 28SO, 28JW	5	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O
PIC16F76*	14336 (FLASH)	8192x14 (FLASH)	—	—	368	22	28SP, 28SO, 28SS	5	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, Self-read
PIC16C77	14336	8192x14	—	—	368	33	40P, 40JW, 44L, 44PQ, 44PT	8	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP
PIC16F77*	14336 (FLASH)	8192x14 (FLASH)	—	—	368	33	40P, 44L, 44PT	8	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP, Self-read
PIC16C770	3584	2048x14	—	—	256	16	20P, 20SO, 20JW, 20SS	6 (12-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	MI^{2}C/SPI	20	✓	✓P	✓	1 ECCP	4MHz internal oscillator, VREF
PIC16C771	7168	4096x14	—	—	256	16	20P, 20SO, 20JW, 20SS	6 (12-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	MI^{2}C/SPI	20	✓	✓P	✓	1 ECCP	4MHz internal oscillator, VREF
PIC16C773	7168	4096x14	—	—	256	22	28SP, 28SO, 28SS, 28JW	6 (12-bit)	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓P	✓	2	25mA source/sink per I/O, VREF, 9 bit
PIC16C774	7168	4096x14	—	—	256	33	40P, 40JW, 44L, 44PQ, 44PT	10 (12-bit)	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓P	✓	2	25mA source/sink per I/O, VREF, 9 bit, PSP
PIC16C745	14336	8192x14	—	—	256	22	28SP, 28SO, 28JW	5	—	2	1-16 bit, 2-8 bit, 1-WDT	USART, USB	24	✓	✓	—	2	25mA source/sink per I/O, USB 1.1, 64 bytes dual port RAM

PICmicro® MICROCONTROLLER FAMILY PRODUCTS

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	Bytes	OTP/FLASH Words	ROM Words					8-Bit ADC Channels	Comparators	PWM 10-Bit	Timers/WDT	Serial I/O						
PIC16CXXX: 4–12 Interrupts, 200ns Instruction Execution, 35 Instructions, 4/5 Oscillator Selections, Upwardly Compatible with PIC16C5X/PIC12CXXX (continued)																		
PIC16C765	14336	8192x14	—	—	256	33	40P, 40JW, 44L, 44PT	8	—	2	1-16 bit, 2-8 bit, 1-WDT	USART, USB	24	✓	✓	—	2	25mA source/sink per I/O, USB 1.1, 64 bytes dual port RAM, PSP
PIC16F84A	1792 (FLASH)	1024x14 (FLASH)	—	64	68	13	18P, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	25mA source/sink per I/O
PIC16F870	3584 (FLASH)	2048x14 (FLASH)	—	64	128	22	28SP, 28SO, 28SS	5 (10-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	USART	20	✓	✓	—	1	25mA source/sink per I/O, 9-bit, Self-Programming, ICD
PIC16F871	3584 (FLASH)	2048x14 (FLASH)	—	64	128	33	40P, 44L, 44PT	8 (10-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	USART	20	✓	✓	—	1	25mA source/sink per I/O, 9-bit, PSP, Self-Programming, ICD
PIC16F872	3584 (FLASH)	2048x14 (FLASH)	—	64	128	22	28SP, 28SO, 28SS	5 (10-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	MI^{2}C/SPI	20	✓	✓	—	1	25mA source/sink per I/O, ICD, Self-Programming
PIC16F873	7168 (FLASH)	4096x14 (FLASH)	—	128	192	22	28SP, 28SO	5 (10-bit)	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, Self-Programming, 9 bit
PIC16F874	7168 (FLASH)	4096x14 (FLASH)	—	128	192	33	40P, 44L, 44PQ, 44PT	8 (10-bit)	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, PSP Self-Programming, 9 bit
PIC16F876	14336 (FLASH)	8192x14 (FLASH)	—	256	368	22	28SP, 28SO	5 (10-bit)	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, Self-Programming, 9 bit
PIC16F877	14336 (FLASH)	8192x14 (FLASH)	—	256	368	33	40P, 44L, 44PQ, 44PT	8 (10-bit)	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, PSP, Self-Programming, 9 bit
PIC16C923	7168	4096x14	—	—	176	52	64PT, 68L	—	—	1	1-16 bit, 2-8 bit, 1-WDT	I^{2}C/SPI	8	✓	—	—	1	25mA source/sink per I/O, LCD module, static, 1/2, 1/3, 1/4 multiplex
PIC16C924	7168	4096x14	—	—	176	52	64PT, 68CL, 68L	5	—	1	1-16 bit, 2-8 bit, 1-WDT	I^{2}C/SPI	8	✓	—	—	1	25mA source/sink per I/O, LCD module, static, 1/2, 1/3, 1/4 multiplex
PIC16C925	7168	4096x14	—	—	176	52	68CL, 68L, 64PT	5 (10-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	I^{2}C/SPI	8	✓	✓	—	1	25mA source/sink per I/O, LCD module static, 1/2, 1/3, 1/4 multiplex, Self-read
PIC16C926	14336	8192x14	—	—	336	52	68CL, 68L, 64PT	5 (10-bit)	—	1	1-16 bit, 2-8 bit, 1-WDT	I^{2}C/SPI	8	✓	✓	—	1	25mA source/sink per I/O, LCD module static, 1/2, 1/3, 1/4 multiplex, Self-read
PIC17CXXX: 120ns Instruction Execution Including Multiply, 58 Instructions, 4 Oscillator Selections, Externally expandable to 64Kx16 Program Memory, Upwardly Compatible with PIC16CXX/PIC16C5X/PIC12CXXX																		
PIC17C42A	4096	2048x16	—	—	232	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	2	2-16 bit, 2-8 bit, 1-WDT	USART	33	—	—	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, 1 cycle 8x8 multiply, EMA
PIC17CR42	4096	—	2048x14	—	232	33	40P, 44L, 44PQ, 44PT	—	—	2	2-16 bit, 2-8 bit, 1-WDT	USART	33	—	—	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, 1 cycle 8x8 multiply, EMA
PIC17C43	8192	4096x16	—	—	454	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	2	2-16 bit, 2-8 bit, 1-WDT	USART	33	—	—	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, 1 cycle 8x8 multiply, EMA
PIC17CR43	8192	—	4096x16	—	454	33	40P, 44L, 44PQ, 44PT	—	—	2	2-16 bit, 2-8 bit, 1-WDT	USART	33	—	—	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, 1 cycle 8x8 multiply, EMA
PIC17C44	16384	8192x16	—	—	454	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	2	2-16 bit, 2-8 bit, 1-WDT	USART	33	—	—	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 2 Capture, 1 cycle 8x8 multiply, EMA
PIC17C752	16384	8192x16	—	—	678	50	64PT, 68L	12 (10-bit)	—	3	2-16 bit, 2-8 bit, 1-WDT	USART (2)/ MI^{2}C/SPI	33	✓	✓	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, 1 cycle 8x8 multiply, EMA
PIC17C756A	32768	16384x16	—	—	902	50	64PT, 68L, 68CL	12 (10-bit)	—	3	2-16 bit, 2-8 bit, 1-WDT	USART (2)/ MI^{2}C/SPI	33	✓	✓	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, 1 cycle 8x8 multiply, EMA

7-HOLE PUNCH HERE

PICmicro® MICROCONTROLLER FAMILY PRODUCTS

Product	Program Memory			EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital			MAX Speed MHz	ICSP™	BOR/ PBOR	PLVD	CCP/ ECCP	Other Features
	Bytes	OTP/FLASH Words	ROM Words					8-Bit ADC Channels	Comparators	PWM 10-Bit	Timers/WDT	Serial I/O						
PIC17CXXX: 120ns Instruction Execution Including Multiply, 58 Instructions, 4 Oscillator Selections, Externally expandable to 64Kx16 Program Memory, Upwardly Compatible with PIC16CXX/PIC16C5X/PIC12CXXX (continued)																		
PIC17C762	16384	8192x16	—	—	678	66	80PT, 84L	16 (10-bit)	—	3	2-16 bit, 2-8 bit, 1-WDT	USART (2)/ MI^{2}C/SPI	33	✓	✓	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, 1 cycle 8x8 multiply, EMA
PIC17C766	32768	16384x16	—	—	902	66	80PT, 84L, 84CL	16 (10-bit)	—	3	2-16 bit, 2-8 bit, 1-WDT	USART (2)/ MI^{2}C/SPI	33	✓	✓	—	—	20mA source and 35mA sink per I/O, 2 I/O with 60mA sink, 4 Capture, 1 cycle 8x8 multiply, EMA
PIC18CXXX: 10 MIPS, 77 Instructions, C-compiler Efficient Instruction Set, Software Stack Capability, Table Operation, 4X PLL Clock, Switchable Oscillator Sources, 25mA Source/Sink per I/O, Upwardly Compatible with PIC17CXXX/ PIC16CXX/PIC16C5X/PIC12CXXX																		
PIC18C242	16384	8192x16	—	—	512	23	28SP, 28SO, 28JW	5 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, 8x8 multiply
PIC18C442	16384	8192x16	—	—	512	34	40P, 40JW, 44L, 44PT	8 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, 8x8 multiply, PSP
PIC18C252	32768	16384x16	—	—	1536	23	28SP, 28SO, 28JW	5 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, 8x8 multiply
PIC18C452	32768	16384x16	—	—	1536	34	40P, 40JW, 44L, 44PT	8 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, 8x8 multiply, PSP
PIC18C658*	32768	16384x16	—	—	1536	52	64PT, 68L, 68CL	12 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI/ CAN2.0B	40	✓	✓P	✓	2	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks, PSP
PIC18C858*	32768	16384x16	—	—	1536	68	80PT, 84L, 84CL	16 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI/ CAN2.0B	40	✓	✓P	✓	2	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks, PSP
PIC18CXXX CMOS MCUs: Upwardly Compatible with PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C-compiler Efficient Instruction Set, Software Stack Capability, Table Operation, 4X PLL Clock, Switchable Oscillator Sources, 25mA Source/Sink per I/O																		
PIC18C601*	ROM-less	ROMless	—	—	1536	31	64PT, 68L	8 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	25	—	—	✓	2	256KB EMA, 9 bit, Bootloader RAM
PIC18C801*	ROM-less	ROMless	—	—	1536	42	80PT, 84L	12 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	25	—	—	✓	2	2MB EMA, 9 bit, Bootloader RAM

Abbreviation:

9-bit = 9-bit USART Addressing Mode
ADC = Analog-to-Digital Converter
AUSART = Addressable USART
BOR = Brown-out Detection/Reset
CAP = Capture
CCP = Capture/Compare/PWM
DAC = Digital-to-Analog Converter
E^2 = EEPROM (Reprogrammable)
ECCP = Enhanced Capture/Compare/PWM
EMA = External Memory Addressing
I^{2}C = Inter-integrated Circuit Bus
ICD = In-Circuit Debug
LVD = Low Voltage Detection
LIN XCVR = Local Interconnection Network Transceiver
MI^{2}C/SPI = Master I^{2}C/SPI
PBOR = Programmable Brown-Out Detection/Reset
PLVD = Programmable Low-Voltage Detection
PSP = Parallel Slave Port
PWM = Pulse Width Modulator
SLAC = Slope A/D Converter, up to 16 bits
SLAC = Slope A/D Converter, up to 16 bits
SMB = System Management Bus
SPI = Serial Peripheral Interface
USART = Universal Synchronous/Asynchronous Receiver/Transmitter
USB = Universal Serial Bus
VREF = Voltage Reference
WDT = Watchdog Timer
✓P = Programmable

*Contact Microchip Technology for availability date.

MATURE MICROCHIP PRODUCT LINE

PICmicro® MICROCONTROLLER FAMILY PRODUCTS
(Newer versions of these products are available in the "Current" section of this Product Line Card)

Product	Program Memory			EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog		Digital			MAX Speed MHz	ICSP™	BOR/ PBOR	PLVD	CCP/ ECCP	Other Features
	Bytes	OTP/FLASH Words	ROM Words					8-Bit ADC Channels	Comparators	PWM 10-Bit	Timers/WDT	Serial I/O						
PIC12C508	768	512x12	—	—	25	6	8P, 8SM, 8JW	—	—	—	1-8 bit, 1-WDT	—	4	✓	—	—	—	25mA source/sink per I/O
PIC12C509	1536	1024x12	—	—	41	6	8P, 8SM, 8JW	—	—	—	1-8 bit, 1-WDT	—	4	✓	—	—	—	25mA source/sink per I/O
PIC16C54	768	512x12	—	—	25	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16CR54A	768	—	512x12	—	25	12	18P, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C54A	768	512x12	—	—	25	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C55	768	512x12	—	—	24	20	28P, 28JW, 28SP, 28SO, 28SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C56	1536	1024x12	—	—	25	12	18P, 18JW, 18SO, 20SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C57	3072	2048x12	—	—	72	20	28P, 28JW, 28SP, 28SO, 28SS	—	—	—	1-8 bit, 1-WDT	—	20	—	—	—	—	20mA source and 25mA sink per I/O
PIC16C62A	3584	2048x14	—	—	128	22	28SP, 28SO, 28SS, 28JW	—	—	1	1-16 bit, 2-8 bit, 1-WDT	I^2C/SPI™	20	✓	✓	—	1	25mA source/sink per I/O
PIC16C63	7168	4096x14	—	—	192	22	28SP, 28SO, 28JW	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^2C/SPI	20	✓	✓	—	2	25mA source/sink per I/O
PIC16C64A	3584	2048x14	—	—	128	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	1	1-16 bit, 2-8 bit, 1-WDT	I^2C/SPI	20	✓	✓	—	1	25mA source/sink per I/O, PSP
PIC16C65A	7168	4096x14	—	—	192	33	40P, 40JW, 44L, 44PQ, 44PT	—	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^2C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP
PIC16C620	896	512x14	—	—	80	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. V_{REF}, 25mA source/sink per I/O
PIC16C621	1792	1024x14	—	—	80	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. V_{REF}, 25mA source/sink per I/O
PIC16C622	3584	2048x14	—	—	128	13	18P, 18SO, 18JW, 20SS	—	2	—	1-8 bit, 1-WDT	—	20	✓	✓	—	—	Prog. V_{REF}, 25mA source/sink per I/O
PIC16C71	1792	1024x14	—	—	36	13	18P, 18SO, 18JW	4	—	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	25mA source/sink per I/O
PIC16C72	3584	2048x14	—	—	128	22	28SP, 28SO, 28JW, 28SS	5	—	1	1-16 bit, 2-8 bit, 1-WDT	I^2C/SPI	20	✓	✓	—	1	25mA source/sink per I/O
PIC16C73A	7168	4096x14	—	—	192	22	28SP, 28SO, 28JW	5	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^2C/SPI	20	✓	✓	—	2	25mA source/sink per I/O
PIC16C74A	7168	4096x14	—	—	192	33	40P, 40JW, 44L, 44PQ, 44PT	8	—	2	1-16 bit, 2-8 bit, 1-WDT	USART/ I^2C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, PSP
PIC16F83	896 (FLASH)	512x14 (FLASH)	—	64	36	13	18P, 18SO	—	—	—	1-8 bit, 1-WDT	—	10	✓	—	—	—	20mA source and 25mA sink per I/O
PIC16CR83	896	—	512x14	64	36	13	18P, 18SO	—	—	—	1-8 bit, 1-WDT	—	10	—	—	—	—	20mA source and 25mA sink per I/O
PIC16F84	1792 (FLASH)	1024x14 (FLASH)	—	64	68	13	18P, 18SO	—	—	—	1-8 bit, 1-WDT	—	10	✓	—	—	—	20mA source and 25mA sink per I/O
PIC16CR84	1792	—	1024x14	64	68	13	18P, 18SO	—	—	—	1-8 bit, 1-WDT	—	10	—	—	—	—	20mA source and 25mA sink per I/O

7-HOLE PUNCH HERE

ANALOG AND INTERFACE PRODUCTS

ANALOG PRODUCTS — Stand-alone Analog-to-Digital Converter (ADC) Products

Product	Resolution (bits)	Sample Rate (kHz)	Number of Channels	Interface	INL (LSB)	DNL (LSB)	THD (dB, typical)	Standby Current (typical, µA)	Operating Current (typical, µA)	Packages
MCP3001	10	200	1	SPI	±1	±1	-76	0.005	400	8P, 8SN, 8ST
MCP3002	10	200	2	SPI	±1	±1	-76	0.005	520	8P, 8SN, 8ST
MCP3004	10	200	4	SPI	±1	±1	-76	0.005	425	14P, 14SL, 14ST
MCP3008	10	200	8	SPI	±1	±1	-76	0.005	425	16P, 16SL
MCP3201	12	100	1	SPI	±1	±1	-82	0.005	400	8P, 8SN, 8ST
MCP3202	12	100	2	SPI	±1	±1	-82	0.005	550	8P, 8SN, 8ST
MCP3204	12	100	4	SPI	±1	±1	-82	0.005	400	14P, 14SL, 14ST
MCP3208	12	100	8	SPI	±1	±1	-82	0.005	400	16P, 16SL

ANALOG PRODUCTS — Operational Amplifier Products

Product	Number per Package	GBWP	Iq (typical)	Vos	Operating Voltage	Temperature Range	Other Features	Packages
MCP601	1	2.8 MHz	230µA	2mV	2.7V to 5.5V	-40° to +85°C	Rail-to-Rail output	8P, 8SN, 8TSSOP, SOT-23
MCP602	2	2.8 MHz	230µA	2mV	2.7V to 5.5V	-40° to +85°C	Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP603	1	2.8 MHz	230µA	2mV	2.7V to 5.5V	-40° to +85°C	Chip Select, Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP604	4	2.8 MHz	230µA	2mV	2.7V to 5.5V	-40° to +85°C	Rail-to-Rail output	14P, 14SL, 14TSSOP
MCP606	1	155 kHz	18.7µA	250µV	2.5V to 5.5V	-40° to +85°C	Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP607	2	155 kHz	18.7µA	250µV	2.5V to 5.5V	-40° to +85°C	Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP608	1	155 kHz	18.7µA	250µV	2.5V to 5.5V	-40° to +85°C	Chip Select, Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP609	4	155 kHz	18.7µA	250µV	2.5V to 5.5V	-40° to +85°C	Rail-to-Rail output	14P, 14SL, 14TSSOP

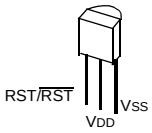
ANALOG PRODUCTS — Precision System Supervisor Products

Product	Vcc Range	Reset	Output	Typical T_{RPU}	Typical I_{DD}	Temperature	Packages	TO-92 Bond Options
MCP100	1.0V - 5.5V	Active Low	CMOS Push-Pull	350ms	32µA	-40° to +85°C	TO-92, SOT-23-3	D, H
MCP101	1.0V - 5.5V	Active High	CMOS Push-Pull	350ms	32µA	-40° to +85°C	TO-92, SOT-23-3	D, H
MCP120	1.0V - 5.5V	Active Low	Open Drain	350ms	32µA	-40° to +85°C	TO-92, SOT-23-3, 8SN	D, G, H
MCP130	1.0V - 5.5V	Active Low	Open Drain W/5K ohm Pull-Up	350ms	32µA	-40° to +85°C	TO-92, SOT-23-3, 8SN	D, F, H
MCP809	1.0V - 5.5V	Active Low	CMOS Push-Pull	350ms	32µA	-40° to +85°C	SOT-23-3	–
MCP810	1.0V - 5.5V	Active High	CMOS Push-Pull	350ms	32µA	-40° to +85°C	SOT-23-3	–

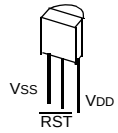
Available Reset Voltages

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

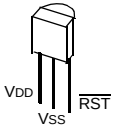
TO-92 with 'D' Bondout



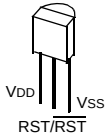
TO-92 with 'F' Bondout



TO-92 with 'G' Bondout



TO-92 with 'H' Bondout



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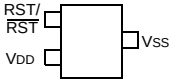
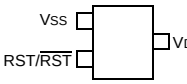


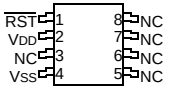
MCP100/101; MCP120/130

SOT-23-3



MCP809/810

150mil SOIC



MCP120/130

ANALOG PRODUCTS — Digitial Potentiometer Products

Product	Number of Taps	Number of Channels	Interface	Resistance (1)	INL (max)	DNL (max)	Packages
MCP41XXX	256	1	SPI	10K, 50K, 100K	±1 lsb	±1 lsb	8P, 8SN
MCP42XXX	256	2	SPI	10K, 50K, 100K	±1 lsb	±1 lsb	14P, 14SN, 14TSSOP

INTERFACE PRODUCTS — Controller Area Network (CAN) Devices

Product	Vcc Range	Temperature Range	Unique Features	Packages
MCP2510	2.7V to 5.5V	I, E	Low pincount stand-alone CAN controller with simple SPI serial interface, support of CAN 2.0B (handles standard and extended messages, 1Mbps max transmission rates), three full message transmit buffers, 2 full message receive buffers, masks and filters for both receive buffers, and interrupt generation.	18P, 18SO, 20TSSOP

microID™ RFID TAGGING DEVICES

Product	Carrier Frequency	Programming	Anticollison	Memory Type	Memory Size	Protocols	Packages	Other
MCRF200	100-150kHz	Contactless	No	OTP	96/128 bits	PSK, FSK, ASK, biphase, Manchester, NRZ	W, WF, S, WB, WFB, SB, 1C, 3C, P, SN	–
MCRF202	100-150kHz	Contact	Yes	OTP	96/128 bits	FSK, ASK, biphase, Manchester, NRZ	W, WF, S, WB, WFB, SB, P, SN	sensor input
MCRF250	100-150kHz	Contactless	Yes	OTP	96/128 bits	PSK, FSK, ASK, biphase, Manchester, NRZ	W, WF, S, WB, WFB, SB, 1C, 3C, P, SN	–
MCRF355	Up to 24MHz	Contact	Yes	R/W	154 bits	ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 6C	–
MCRF360	Up to 24MHz	Contact	Yes	R/W	154 bits	ASK Manchester	W, WF, S, WB, WFB, SB, P, SN	100pF res cap
MCRF450	13.56MHz	Contactless	Yes	R/W	1K bits	PPM, ASK Manchester	W, WF, S, WB, WFB, SB, P, SN, 6C	32-bit unique ID user lock control by block

SECURE DATA PRODUCTS

KEELOQ® Encoder Devices

Product	Transmission Code Length Bits	Code Hopping Bits	Programmable Encryption Key Bits	Seed Length	Operating Voltage	Function	Other Features	Packages
HCS101	66	—	—	—	3.5V to 13.0V	7	Fixed code support for non-secure applications, up to 28-bit serial numbers, internal tunable oscillator	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, step-up voltage operation, internal tunable oscillator	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	LED Drive, Overflow bits, Time-out, Battery Low Indicator	8P, 8SN
HCS320	66	32	64	32	3.5V to 13.0V	16	Shift Operation, LED Drive, Overflow bits, Time-out, Battery Low Indicator	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
HCS365*	67	32	2 x 64	60	2.0V to 5.5V	4 X 15	PWM, VPWM, PPM, Manchester encoding, internal tunable oscillator, Dual Encoder Operation, 4 inputs, Queue counter	8P, 8SM, 8ST
HCS370*	67	32	2 x 64	60	2.0V to 5.5V	4 X 15	PWM, VPWM, PPM, Manchester encoding, internal tunable oscillator, Stepup voltage regulation, Dual Encoder Operation, 6 inputs, Queue counter	14P, 14SL, 14ST
HCS410	69	32	2 x 64	60	2.0V to 6.6V	7	Self-powered transponder and encoder, bi-directional authentication, user EEPROM, tunable oscillator, Queue Counter, 2-Bit CRC	8P, 8SN, 8ST
HCS412	69	32	2 x 64	60	2.0V to 6.6V	4 x 7	Passive Entry Encoder and Transponder, bi-directional authentication, user EEPROM, internal tunable oscillator, queue counter, 2-bit CRC	8P, 8SN, 8ST

KEELOQ® Decoder Devices

Product	Reception Length Bits	Encoders Supported	Transmitters Supported	Operating Voltage	Functions	Other Features	Packages
HCS500	67	HCS200, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS410, HCS412	Up to 7	4.5V to 5.5V	15 Serial Functions	Full-featured decoder with serial interface to microcontrollers	8P, 8SM
HCS512	67	HCS200, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS410, HCS412	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, HCS201, HCS300, HCS301, HCS320, HCS360, HCS361, HCS410, HCS412	Up to 7	4.5V to 5.5V	15 Serial; 3 Parallel	Full-featured decoder with serial and parallel interface. On-chip 1K transmitter and 1K user EEPROM.	14P, 14SL

7-HOLE PUNCH HERE

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, 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	1M	8K bits (x8 or x16)	5 ms	2 MHz	4.5V to 5.5V		P, SN
93C86	1M	16K bits (x8 or x16)	5 ms	2 MHz	4.5V to 5.5V		P, SN
93LC46	1M	1K bits (x8 or x16)	10 ms	2 MHz	2.0V to 6.0V	Not recommended for new designs.	P, SN
93LC56	1M	2K bits (x8 or x16)	10 ms	2 MHz	2.0V to 6.0V	Not recommended for new designs.	P, SN
93LC66	1M	4K bits (x8 or x16)	10 ms	2 MHz	2.0V to 6.0V	Not recommended for new designs.	P, SN
93LC76	1M	8K bits (x8 or x16)	5 ms	2 MHz	2.0V to 6.0V		P, SN
93LC86	1M	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, ST
93LC56A	1M	2K bits (x8)	6 ms	2 MHz	2.5V to 6.0V		P, SN, ST
93LC66A	1M	4K bits (x8)	6 ms	2 MHz	2.5V to 6.0V		P, SN, ST
93LC46B	1M	1K bits (x16)	5 ms	2 MHz	2.5V to 6.0V		P, SN, ST
93LC56B	1M	2K bits (x16)	6 ms	2 MHz	2.5V to 6.0V		P, SN, ST
93LC66B	1M	4K bits (x16)	6 ms	2 MHz	2.5V to 6.0V		P, SN, ST
93AA46	1M	1K bits (x8 or x16)	10 ms	2 MHz	1.8V to 5.5V		P, SN
93AA56	1M	2K bits (x8 or x16)	10 ms	2 MHz	1.8V to 5.5V		P, SN
93AA66	1M	4K bits (x8 or x16)	10 ms	2 MHz	1.8V to 5.5V		P, SN
93AA76	1M	8K bits (x8 or x16)	5 ms	2 MHz	1.8V to 5.5V		P, SN
93AA86	1M	16K bits (x8 or x16)	5 ms	2 MHz	1.8V to 5.5V		P, SN
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 and 24C02C are for applications which require fast byte write and/or extended temperature. I^2C compatible. 3 address pins.	P, SN, ST
24C02C	1M	2K bits (x8)	1 ms	400 kHz	4.5V to 5.5V		P, SN, ST
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
24C16B	1M	16K bits (x8)	10 ms	100 kHz	4.5V to 5.5V		P, SN
24LC01B	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Hardware write protect. Schmitt trigger inputs. 400kHz operation @ 5.0V ± 10% . 24LC01B now available in 5-pin SOT-23 package.	P, SN, OT, ST
24LC02B	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, ST
24LC04B	1M	4K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, ST
24LC08B	1M	8K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, ST
24LC16B	1M	16K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		P, SN, ST, MS
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% .	P, SN
24AA02	1M	2K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, ST
24AA04	1M	4K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, ST
24AA08	1M	8K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, ST
24AA16	1M	16K bits (x8)	10 ms	400 kHz	1.8V to 5.5V		P, SN, ST
24LC32A	1M	32K bits (x8)	5 ms	400 kHz	2.5V to 5.5V	Industry standard addressable 32K bit I^2C Serial EEPROM.	P, SN, SM
24AA32A	1M	32K bits (x8)	5 ms	100 kHz	1.8V to 5.5V		P, SN, 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
24LC128	100K	128K bits (x8)	5 ms	400 kHz	2.5V to 5.5V	64 byte page.	P, SN, SM, 14ST
24AA128	100K	128K bits (x8)	10 ms	100 kHz	1.8V to 5.5V		P, SN, SM, 14ST
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
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
24LC16SC	1M	16K bits (x8)	10 ms	400 kHz	2.5V to 5.5V		S, W, WF
24LC32ASC	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 (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
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

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

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
24LC024	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Addressable, hardware write protection.	P, SN, ST
24LC025	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Addressable.	P, SN, ST
24LCS52	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Addressable, software write protection.	P, SN, ST
24LCS61	1M	1K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Software addressable devices for board identification, software WP.	P, SN, ST
24LCS62	1M	2K bits (x8)	10 ms	400 kHz	2.5V to 5.5V	Software addressable devices for board identification, software WP.	P, SN, ST

DEVELOPMENT SYSTEMS

MPLAB® ICE Emulator Systems and PRO MATE® II Programmer Socket Modules

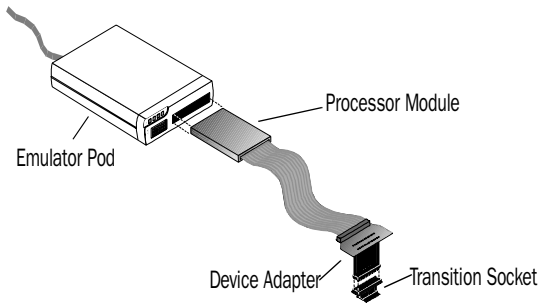
HOW DO I ORDER MPLAB-ICE?

Ordering MPLAB ICE as easy as 1, 2, and 3!

1. Pick your PICmicro MCU.
2. Pick your PICmicro package.
3. Find the right line on the next few pages for MPLAB ICE part numbers. You're ready to order.

A COMPLETE MPLAB-ICE SYSTEM

MPLAB ICE is a modular emulator system with interchangeable components allowing the system to be easily configured to emulate different PICmicro MCUs. Since this new emulator supports package-specific emulation, customers need to know which device and package they intend to emulate. Then, the customer can use the *MPLAB ICE Cross Reference Parts List* below to identify the part numbers required to complete an MPLAB ICE system. A complete system consists of:



1. An emulator pod (including among other things the host-to-pod parallel cable and power supply)
2. A processor module (including the flex cable circuit)
3. A device adapter
4. An optional transition socket

An MPLAB ICE emulator system is ordered as separate components. Knowing the terms will make it easy to order and use the new MPLAB ICE emulator system. Read more about each component.

1. Emulator Pod
The MPLAB ICE 2000 is the full-featured emulator pod containing a main board and an additional board for expanded trace memory and complex control logic. The pod comes with a standard parallel interface cable that connects the pod to the parallel port of the PC and a power supply.

2. Processor Module
The processor module is a PICmicro, device-specific module that is inserted into the emulator pod. The processor module contains the emulator chip, logic, and low-voltage circuitry. A flex cable extends from the processor module and is connected to the device adapter at the target application.

3. Device Adapter
The device adapter provides a common interface for the PICmicro MCU being emulated. This adapter contains a special device that provides an oscillator clock allowing the user to accurately emulate the RC characteristics of the PICmicro MCU. The device adapter provides emulation support for standard DIP and PLCC styles. For emulation support of other packages, a transition socket is needed along with the device adapter.

4. Transition Socket
The transition sockets are available in various styles to allow the common device adapter to be translated to support surface-mount packages, such as SOIC, SSOP, PQFP, and TQFP.

DEVELOPMENT SYSTEMS

MPLAB® ICE Emulator Systems and PRO MATE® II Programmer Socket Modules

Model Name/ Part Number	Lead Count/ Package Type	MPLAB ICE Emulator Hardware Tools				PRO MATE II Programmer (DV007003) Socket Modules**
		Emulator Pod	Processor Module	Device Adapters	Transition Sockets	
PIC12C508	8P, 8JW 8SM	ICE2000 ICE2000	PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080	– XLT08SO	AC124001 AC124001
PIC12C508A	8P, 8JW 8SM 8SN	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080 DVA12XP080	– XLT08SO XLT08SO	AC124001 AC124001 AC164026
PIC12C509	8P, 8JW 8SM	ICE2000 ICE2000	PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080	– XLT08SO	AC124001 AC124001
PIC12C509A	8P, 8JW 8SM 8SN	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080 DVA12XP080	– XLT08SO XLT08SO	AC124001 AC124001 AC164026
PIC12CE518	8P, 8JW 8SM 8SN	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080 DVA12XP080	– XLT08SO XLT08SO	AC124001 AC124001 AC164026
PIC12CE519	8P, 8JW 8SM 8SN	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA12XP080 DVA12XP080 DVA12XP080	– XLT08SO XLT08SO	AC124001 AC124001 AC164026
PIC12C671	8P, 8JW 8SM	ICE2000 ICE2000	PCM12XA0 PCM12XA0	DVA12XP081 DVA12XP081	– XLT08SO	AC124001 AC124001
PIC12C672	8P, 8JW 8SM	ICE2000 ICE2000	PCM12XA0 PCM12XA0	DVA12XP081 DVA12XP081	– XLT08SO	AC124001 AC124001
PIC12CE673	8P, 8JW	ICE2000	PCM12XA0	DVA12XP081	–	AC124001
PIC12CE674	8P, 8JW	ICE2000	PCM12XA0	DVA12XP081	–	AC124001
PIC14000	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM14XA0 PCM14XA0 PCM14XA0	DVA14XP280 DVA14XP280 DVA14XP280	– XLT28SO XLT28SS	AC144001 AC144002 AC144002
PIC16C505	14P, 14JW 14SL	ICE2000 ICE2000	PCM16XA0 PCM16XA0	DVA16XP140 DVA16XP140	– XLT14SO	AC124001 AC164026
PIC16C52	18P 18SO	ICE2000 ICE2000	PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180	– XLT18SO	AC164001 AC164002
PIC16C54/ PIC16C54A/ PIC16C54C	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164001 AC164002 AC164015
PIC16C55/ PIC16C55A	28P, 28JW 28SP 28SO 28SS	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP280 DVA16XP280 DVA16XP280 DVA16XP280	XLT28XP – XLT28SO XLT28SS2	AC164001 AC164001 AC164002 AC164015
PIC16C554	18P, 18JW 18SO 18SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C558	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C56/ PIC16C56A	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164001 AC164002 AC164015
PIC16C57/ PIC16C57C	28P, 28JW 28SP 28SO 28SS	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP280 DVA16XP280 DVA16XP280 DVA16XP280	XLT28XP – XLT28SO XLT28SS2	AC164001 AC164001 AC164002 AC164015
PIC16C58A/ PIC16C58B	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XA0 PCM16XA0 PCM16XA0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164001 AC164002 AC164015
PIC16C62A	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XB1 PCM16XB1 PCM16XB1	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C62B	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C620/ PIC16C620A	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C621/ PIC16C621A	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C622/ PIC16C622A	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16CE623	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16CE624	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16CE625	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XC0 PCM16XC0 PCM16XC0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C63	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XB1 PCM16XB1	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16C63A	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C64A	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XB1 PCM16XB1 PCM16XB1 PCM16XB1	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C642	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XD0 PCM16XD0	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16C65A	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XB1 PCM16XB1 PCM16XB1 PCM16XB1	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C65B	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP400 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C66	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XE1 PCM16XE1	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16C662	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XD0 PCM16XD0 PCM16XD0 PCM16XD0	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C67	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C71	18P, 18JW 18SO	ICE2000 ICE2000	PCM16XF0 PCM16XF0	DVA16XP180 DVA16XP180	– XLT18SO	AC164010 AC164010
PIC16C710	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XF0 PCM16XF0 PCM16XF0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C711	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XF0 PCM16XF0 PCM16XF0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C712	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP182 DVA16XP182 DVA16XP182	– XLT18SO XLT20SS	AC164010 AC164010 AC164018

* Contact Microchip Technology Inc. for availability.
** PRO MATE II Programmer (DV007003) sold separately.

Model Name/ Part Number	Lead Count/ Package Type	MPLAB ICE Emulator Hardware Tools				PRO MATE II Programmer (DV007003) Socket Modules**
		Emulator Pod	Processor Module	Device Adapters	Transition Sockets	
PIC16C715	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XG0 PCM16XG0 PCM16XG0	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C716	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP182 DVA16XP182 DVA16XP182	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C717	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XN0* PCM16XN0* PCM16XN0*	DVA16XP184* DVA16XP184* DVA16XP184*	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16C72	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XB1 PCM16XB1 PCM16XB1	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C72A	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C73A	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XB1 PCM16XB1	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16C73B	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C74A	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XB1 PCM16XB1 PCM16XB1 PCM16XB1	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C74B	40P, 40JW 44L 44PQ 4PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C76	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XE1 PCM16XE1	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16F76	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XSO PCM16XSO	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16C77	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XE1 PCM16XE1 PCM16XE1 PCM16XE1	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16F77	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XSO PCM16XSO PCM16XSO PCM16XSO	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C745	28SP, 28JW 28SO	ICE2000 ICE2000	PCM16XQ0* PCM16XQ0*	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16C765	40P 44L 44PT	ICE2000 ICE2000 ICE2000	PCM16XQ0* PCM16XQ0* PCM16XQ0*	DVA16XP401 DVA16XL441 DVA16PQ441	– – XLT44PT	AC164012 AC164013 AC164020
PIC16C770 PIC16C771	20P 20SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XN0* PCM16XN0* PCM16XN0*	DVA16XP200 DVA16XP200 DVA16XP200	– XLT20SO1* XLT20SS1*	AC164028* AC164028* AC164018
PIC16C773	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XL0 PCM16XL0 PCM16XL0	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16C774	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XL0 PCM16XL0 PCM16XL0 PCM16XL0	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16F627	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XP0* PCM16XP0* PCM16XP0*	DVA16XP183* DVA16XP183* DVA16XP183*	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16F628	18P, 18JW 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XP0* PCM16XP0* PCM16XP0*	DVA16XP183* DVA16XP183* DVA16XP183*	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16F73	28SP 28SS 28SO	ICE2000 ICE2000 ICE2000	PCM16XS0 PCM16XS0 PCM16XS0	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SS XLT28SO	AC164012 AC164021 AC164017
PIC16F74	40P 44L 44PT	ICE2000 ICE2000 ICE2000	PCM16XS0 PCM16XS0 PCM16XS0	DVA16XP401 DVA16XL441 DVA16PQ441	– – XLT44PT	AC164012 AC164013 AC164020
PIC16F83	18P 18SO	ICE2000 ICE2000	PCM16XH1 PCM16XH1	DVA16XP180 DVA16XP180	– XLT18SO	AC164010 AC164010
PIC16F84	18P 18SO	ICE2000 ICE2000	PCM16XH1 PCM16XH1	DVA16XP180 DVA16XP180	– XLT18SO	AC164010 AC164010
PIC16F84A	18P 18SO 20SS	ICE2000 ICE2000 ICE2000	PCM16XH1 PCM16XH1 PCM16XH1	DVA16XP180 DVA16XP180 DVA16XP180	– XLT18SO XLT20SS	AC164010 AC164010 AC164018
PIC16F870	28SP, 28JW 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XR0* PCM16XR0* PCM16XR0*	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16F871	40P 44L 44PT	ICE2000 ICE2000 ICE2000	PCM16XR0* PCM16XR0* PCM16XR0*	DVA16XP401 DVA16XL441 DVA16PQ441	– – XLT44PT	AC164012 AC164013 AC164020
PIC16F872	28SP 28SO 28SS	ICE2000 ICE2000 ICE2000	PCM16XK0 PCM16XK0 PCM16XK0	DVA16XP282 DVA16XP282 DVA16XP282	– XLT28SO XLT28SS	AC164012 AC164017 AC164021
PIC16F873	28SP 28SO	ICE2000 ICE2000	PCM16XK0 PCM16XK0	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16F874	40P 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XK0 PCM16XK0 PCM16XK0 PCM16XK0	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16F876	28SP 28SO	ICE2000 ICE2000	PCM16XK0 PCM16XK0	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC16F877	40P 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM16XK0 PCM16XK0 PCM16XK0 PCM16XK0	DVA16XP401 DVA16XL441 DVA16PQ441 DVA16PQ441	– – XLT44PT XLT44PT	AC164012 AC164013 AC164014 AC164020
PIC16C923 PIC16C924	64SP 64PT 68L, 68CL	ICE2000 ICE2000 ICE2000	PCM16XJ0 PCM16XJ0 PCM16XJ0	DVA16XP640 DVA16PQ640 DVA16XL680	– XLT64PT1 –	AC164025 AC164023 AC164022
PIC16C925 PIC16C926	64PT, 68L	ICE2000 ICE2000	PCM16XT0* PCM16XT0*	DVA16PQ640 DVA16XL680	XLT64PT1 –	AC164023 AC164022
PIC17C42A	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM17XA0 PCM17XA0 PCM17XA0 PCM17XA0	DVA17XP401 DVA17XL441 DVA17PQ441 DVA17PQ441	– – XLT44PT XLT44PT	AC174001 AC174002 AC174004 AC174005
PIC17C43	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM17XA0 PCM17XA0 PCM17XA0 PCM17XA0	DVA17XP401 DVA17XL441 DVA17PQ441 DVA17PQ441	– – XLT44PT XLT44PT	AC174001 AC174002 AC174004 AC174005
PIC17C44	40P, 40JW 44L 44PQ 44PT	ICE2000 ICE2000 ICE2000 ICE2000	PCM17XA0 PCM17XA0 PCM17XA0 PCM17XA0	DVA17XP401 DVA17XL441 DVA17PQ441 DVA17PQ441	– – XLT44PT XLT44PT	AC174001 AC174002 AC174004 AC174005
PIC17C752	68L 64PT	ICE2000 ICE2000	PCM17XA0 PCM17XA0	DVA17XL680 DVA17PQ640	– XLT64PT2	AC174007 AC174008
PIC17C756/ PIC17C756A	68L, 68CL 64PT	ICE2000 ICE2000	PCM17XA0 PCM17XA0	DVA17XL680 DVA17PQ640	– XLT64PT2	AC174007 AC174008
PIC17C762	84L 80PT	ICE2000 ICE2000	PCM17XA0 PCM17XA0	DVA17XL840 DVA17PQ800	– XLT80PT	AC174012 AC174011
PIC17C766	84L, 84CL 80PT	ICE2000 ICE2000	PCM17XA0 PCM17XA0	DVA17XL840 DVA17PQ800	– XLT80PT	AC174012 AC174011
PIC18C242	28SP, 28JW 28SO	ICE2000 ICE2000	PCM18XA0 PCM18XA0	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC18C442	40P, 40JW 44L 44PT	ICE2000 ICE2000 ICE2000	PCM18XA0 PCM18XA0 PCM18XA0	DVA16XP401 DVA16XL441 DVA16PQ441	– – XLT44PT	AC164012 AC164013 AC164020
PIC18C252	28SP, 28JW 28SO	ICE2000 ICE2000	PCM18XA0 PCM18XA0	DVA16XP282 DVA16XP282	– XLT28SO	AC164012 AC164017
PIC18C452	40P, 40JW 44L 44PT	ICE2000 ICE2000 ICE2000	PCM18XA0 PCM18XA0 PCM18XA0	DVA16XP401 DVA16XL441 DVA16PQ441	– – XLT44PT	AC164012 AC164013 AC164020
PIC18C658	68L 64PT	ICE2000 ICE2000	PCM18XB0* PCM18XB0*	DVA18XL680 DVA18PQ640	– XLT64PT2	AC174007 AC174008
PIC18C858	84L 80PT	ICE2000 ICE2000	PCM18XB0* PCM18XB0*	DVA18XL840 DVA16PQ800	– XLT80PT	AC174012 AC174011

* Contact Microchip Technology Inc. for availability.
** PRO MATE II Programmer (DV007003) sold separately.

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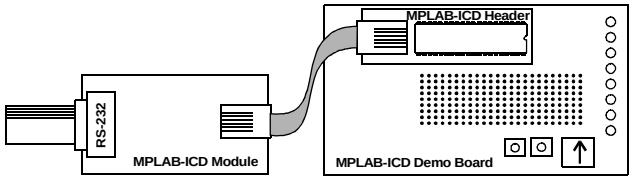
DEVELOPMENT SYSTEMS

MPLAB® In-Circuit Debugger (ICD)

MPLAB In-Circuit Debugger (ICD) Evaluation Kit. MPLAB ICD uses the in-circuit debugging capability of the PIC16F87X family and Microchip's In-Circuit Serial Programming™ (ICSP™) to debug source code in the application, debug hardware in real-time and program a target PIC16F87X device. Operating under Microchip's MPLAB Integrated Development Environment (IDE), MPLAB ICD offers real-time code execution, in-circuit debugging, built-in programmer and 3.0 to 5.5 volts operating range. Components of the evaluation kit include an in-circuit debugging module, header, demo board and MPLAB IDE software.



	PIC12CXXX	PIC16C5X	PIC16C6X	PIC16CXXX	PIC16C7X	PIC16C7XX	PIC16C8X	PIC16F87X	PIC16C9XX	PIC17CXXX	PIC18CXX2	24CXX/25CXX/ 93CXX
MPLAB In-Circuit Debugger Evaluation Kit	–	–	–†	–	–†	–	–	DV164001	–	–	–	–
MPLAB In-Circuit Debugger Module	–	–	–	–	–	–	–	DV164002	–	–	–	–
MPLAB In-Circuit Debugger Evaluation Kit w/power supply	–	–	–	–	–	–	–	DV164003	–	–	–	–

ICEPIC Emulator Systems

Model Name/ Part Number	ICEPIC	
	Pod	Daughter Board
PIC12C508 (*)	EM167200	AC165201
PIC12C509 (*)	EM167200	AC165201
PIC14000	EM167200	N/A
PIC16C52	EM167200	AC165201
PIC16C54	EM167200	AC165201
PIC16C54A	EM167200	AC165201
PIC16C55	EM167200	AC165201
PIC16C554	EM167200	AC165208
PIC16C558	EM167200	AC165208
PIC16C56	EM167200	AC165201
PIC16C57	EM167200	AC165201
PIC16C58A	EM167200	AC165201
PIC16C620	EM167200	AC165202
PIC16C621	EM167200	AC165202
PIC16C622	EM167200	AC165202
PIC16C62A	EM167200	AC165207
PIC16C63	EM167200	AC165207
PIC16C642	EM167200	AC165213
PIC16C64A	EM167200	AC165207
PIC16C65A	EM167200	AC165207
PIC16C66	EM167200	AC165214
PIC16C662	EM167200	AC165213
PIC16C67	EM167200	AC165214

Model Name/ Part Number	ICEPIC	
	Pod	Daughter Board
PIC16C71	EM167200	AC165211
PIC16C710	EM167200	AC165211
PIC16C711	EM167200	AC165211
PIC16C715	EM167200	AC165215
PIC16C72	EM167200	AC165207
PIC16C73A	EM167200	AC165207
PIC16C74A	EM167200	AC165207
PIC16C76	EM167200	AC165214
PIC16C77	EM167200	AC165214
PIC16C77X	EM167200	AC165217
PIC16C923	EM167200	AC165210
PIC16C924	EM167200	AC165210
PIC16F77X	EM167200	AC165217
PIC16F83	EM167200	AC165212
PIC16F84	EM167200	AC165212
PIC16F87X	EM167200	AC165216
PIC17C42A	EM167200	–
PIC17C43	EM167200	–
PIC17C44	EM167200	–
PIC17C756	EM167200	–

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

DEVELOPMENT SYSTEMS

PICmicro Microcontroller and Memory Software Tools, Programmers and Demonstration Boards

	PIC12CXXX	PIC16C5X	PIC16C6X	PIC16CXXX	PIC16C7X	PIC16C7XX	PIC16C8X	PIC16F87X	PIC16C9XX	PIC17CXXX	PIC18CXXX	24CXX/93CXX
Software Tools												
MPLAB® Integrated Development Environment	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002	SW007002
PICC™ Compiler (HI-TECH C Compiler)	***	***	***	***	***	***	***	***	***	***	***	–
Embedded Workbench (IAR C Compiler)	–	–	****	****	****	****	****	****	****	****	****	–
MPLAB- C17 Compiler	–	–	–	–	–	–	–	–	–	SW006010	–	–
MPLAB C18 Compiler	–	–	–	–	–	–	–	–	–	–	SW006011	–
Programmers												
PICSTART® Plus Low-Cost Development Kit	DV003001	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**	–
Demonstration Boards												
Serial EEPROM Designer's Kit (SEEVAL®)	–	–	–	–	–	–	–	–	–	–	–	DV243001
PICDEM-1	–	DM163001**	–	DM163001**	–	DM163001**	DM163001**	–	–	DM163001**	–	–
PICDEM-2	–	–	DM163002**	DM163002**	DM163002**	DM163002**	–	DM163002**	–	–	DM163002**	–
PICDEM-3	–	–	–	–	–	–	–	–	DM163003	–	–	–
PICDEM-14A	DM143001	–	–	–	–	–	–	–	–	–	–	–
PICDEM-17 Development Kit	–	–	–	–	–	–	–	–	–	DM173001**	–	–

* Contact Microchip Technology Inc. for availability date.
** Development tool is available on select devices. Please refer to the Microchip Development Systems Ordering Guide (DS30177) 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
**** IAR Systems Software Inc., Telephone 1-415-765-5500 U.S.A., Telephone 46 18 16 7000 or Web Site www.iar.com
† Contact Microchip Technology Inc.'s web site at www.microchip.com for information on how to use the MPLAB In-Circuit Debugger (DV164001) with PIC16C62, 63, 64, 65, 72, 73, 74, 76, 77 (see Technical Brief, TP033).

In addition to Microchip Development Tools, a wide range of emulators, programmers (single and gang), software (including compilers, RTOS, TCP/IP stack, etc.) evaluation and demonstration boards (PICmicro specific, CAN, LIN, USB, etc.) training tools, analyzers and other products are offered, please see the Microchip Third Party Guide (DS00104), which is available in book form from your local Microchip Sales Office, on the MPLAB IDE CD-ROM, or on our web site at www.microchip.com.

Analog, CAN, KEELOQ® and RFID Evaluation/Developer's Kits

	HCSXXX	MCP2510	MCP3001/02	MCP3004/08	MCP3201/02	MCP3204/08	MCP60X	MCP41XXX/ 42XXX	MCRF200	MCRF250	MCRF355	MCRF450
Analog Evaluation Kits												
Analog Evaluation Driver Board	–	–	DVMCPA	DVMCPA	DVMCPA	DVMCPA	–	DVMCPA	–	–	–	–
Evaluation Board	–	–	DV3201A	DV3204A	DV3201A	DV3204A	–	DV42XXX	–	–	–	–
FilterLab™ Active Filter Design Tool							FilterLab*					–
CAN Developer's Kit												–
MCP2510 CAN Developer's Kit	–	DV251001			–	–	–		–	–	–	–
KeeLoq Evaluation Kits												–
KEELOQ Evaluation Kit	DM303002	–			–	–	–		–	–	–	–
KEELOQ Transponder Evaluation Kit	DM303005	–			–	–	–		–	–	–	–
PRO MATE II Universal Programmer	DV007003**						–					–
RFID Developer's Kits												–
125 kHz microID Developer's Kit for MCRF200	–	–			–	–	–		DV103001	–	–	–
125 kHz Anti-Collision microID Developer's Kit for MCRF250	–	–			–	–	–		–	DV103002	–	–
13.56 MHz Anti-Collision microID Developer's Kit for MCRF355, 360, 450	–	–			–	–	–		–	–	DV103003	DV103005***
microID™ Programmer Kit for MCRF200, MCRF250	–	–			–	–	–		PG103001	PG103001	–	–
microID™ Programmer Kit for MCRF355	–	–			–	–	–		–	–	PG103003	–
Extra Card Pack for the 125 kHz microID Developer's Kit for MCRF200	–	–			–	–	–		AC103001	–	–	–
Extra Card Pack for the 125 kHz Anti-Collision microID Developer's Kit for MCRF250	–	–			–	–	–		–	AC103002	–	–

* Available for download from Microchip Technology Inc.'s web site at www.microchip.com
** Development tool is available on select devices. Please refer to the Microchip Development Systems Ordering Guide (DS30177) for device-specific ordering numbers and more information.
*** Contact Microchip Technology Inc. for availability date.

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PLANNED MICROCHIP PRODUCTS

FUTURE PRODUCTS

Product	Program Memory Bytes	Program Memory OTP/FLASH Words	Program Memory ROM Words	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog 8-Bit ADC Channels	Analog Comparators	Digital PWM 10-Bit	Digital Timers/WDT	Digital Serial I/O	MAX Speed MHz	ICSP™	BOR/PBOR	PLVD	CCP/ECCP	Other Features
PICmicro® MICROCONTROLLER (MCU) PRODUCTS																		
PIC16FXXX FLASH MCUs: (Upwardly Compatible with PIC16C5X/PIC12CXXX, 4-12 Interrupts, 200ns Instruction Execution, 35 Instructions, 4 Oscillator Selections, 25mA source/sink per I/O)																		
PIC16F85	1792 (FLASH)	1024x14 (FLASH)	—	64	96	16	18P, 20SS, 20SO	4	2	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	Internal Vref, 25mA source/sink per I/O, ICD, Self-Programming,
PIC16F86	3584 (FLASH)	2048x14 (FLASH)	—	64	128	16	18P, 20SS, 20SO	4	2	—	1-8 bit, 1-WDT	—	20	✓	—	—	—	Internal Vref, 25mA source/sink per I/O, ICD, Self-Programming,
PIC16F812	1792 (FLASH)	1024 (FLASH)	—	64	128	13	18P, 18SO, 18SS	8-10 bit	—	—	2-8 bit, 1-16 bit, 1-WDT	—	20	✓	✓P	✓	1	VREF, ICD
PIC16F816	3584 (FLASH)	2048 (FLASH)	—	64	128	13	18P, 18SO, 18SS	8-10 bit	—	—	2-8 bit, 1-16 bit, 1-WDT	—	20	✓	✓P	✓	1	VREF, ICD
PIC16F873A	7168 (FLASH)	4096x14 (FLASH)	—	128	192	22	28SP, 28SO	5 (10-bit)	2	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, Self-Programming, 9 bit
PIC16F874A	7168 (FLASH)	4096x14 (FLASH)	—	128	192	33	40P, 44L, 44PQ, 44PT	8 (10-bit)	2	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, PSP Self-Programming, 9 bit
PIC16F876A	14336 (FLASH)	8192x14 (FLASH)	—	256	368	22	28SP, 28SO	5 (10-bit)	2	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, Self-Programming, 9 bit
PIC16F877A	14336 (FLASH)	8192x14 (FLASH)	—	256	368	33	40P, 44L, 44PQ, 44PT	8 (10-bit)	2	2	1-16 bit, 2-8 bit, 1-WDT	USART/ MI^{2}C/SPI	20	✓	✓	—	2	25mA source/sink per I/O, ICD, PSP, Self-Programming, 9 bit
PIC16CXXX CMOS OTP MCUs: (Upwardly Compatible with PIC16C5X/PIC12CXXX, 4-12 Interrupts, 200ns Instruction Execution, 35 Instructions, 4 Oscillator Selections, 25mA source/sink per I/O)																		
PIC16C781	1792	1024x14	—	—	128	15	20P, 20SO, 20SS, 20JW	8	2	—	1-16 bit, 1-8 bit, 1-WDT	—	20	✓	✓P	—	—	Precision VREF, Op Amp, 2 SMPS, 4MHz internal oscillator, DAC
PIC16C782	3584	2048x14	—	—	128	15	20P, 20SO, 20SS, 20JW	8	2	—	1-16 bit, 1-8 bit, 1-WDT	—	20	✓	✓P	—	—	Precision VREF, Op Amp, 2 SMPS, 4MHz internal oscillator, DAC
PIC18FXXX FLASH MCUs: (Upwardly Compatible with PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C-compiler Efficient Instruction Set, Software Stack Capability, Table Operation, Switchable Oscillator Sources, 25mA Source/Sink per I/O)																		
PIC18F010	2048 (FLASH)	1024x16 (FLASH)	—	64	256	6	8P, 8SN	—	—	—	1-16 bit, 1-WDT	—	40	✓	✓	✓	—	25mA sink/source per I/O, ICD, Internal Oscillator
PIC18F020	4096 (FLASH)	2048x16 (FLASH)	—	64	256	6	8P, 8SN	—	—	—	1-16 bit, 1-WDT	—	40	✓	✓	✓	—	25mA sink/source per I/O, ICD, Internal Oscillator
PIC18F012	2048 (FLASH)	1024x14 (FLASH)	—	64	256	6	8P, 8SN	4 (10 bit)	—	1	1-16 bit, 1-WDT	—	40	✓	✓	✓	—	25mA sink/source per I/O, ICD
PIC18F022	4096 (FLASH)	2048x14 (FLASH)	—	64	256	6	8P, 8SN	4 (10 bit)	—	1	1-16 bit, 1-WDT	—	40	✓	✓	✓	—	25mA sink/source per I/O, ICD
PIC18F242	16384 (FLASH)	8192x16 (FLASH)	—	256	512	23	28SP, 28SO	5 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, ICD, Self-Programming, 4xPLL Clock
PIC18F442	16384 (FLASH)	8192x16 (FLASH)	—	256	512	34	40P, 44L, 44PT	8 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, ICD, Self-Programming, PSP, 4xPLL Clock
PIC18F252	32768 (FLASH)	16384x16 (FLASH)	—	256	1536	23	28SP, 28SO	5 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, ICD, Self-Programming, 4xPLL Clock
PIC18F452	32768 (FLASH)	16384x16 (FLASH)	—	256	1536	34	40P, 44L, 44PT	8 (10-bit)	—	2	3-16 bit, 1-8 bit, 1-WDT	USART/ MI^{2}C/SPI	40	✓	✓P	✓	2	9 bit, ICD, Self-Programming, PSP
PIC18F662	65536 (FLASH)	32768x16 (FLASH)	—	256	3072	52	64PT, 68PLCC	12 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	2 A USART/ I^{2}C/SPI	40	✓	✓P	✓	2	9 bit, ICD, Self-Programming, PSP
PIC18F672	131072 (FLASH)	65536x16 (FLASH)	—	256	3968	52	64PT, 68PLCC	12 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	2 AUSART/ I^{2}C/SPI	40	✓	✓P	✓	2	9 bit, ICD, Self-Programming, PSP
PIC18F862	65536 (FLASH)	32768x16 (FLASH)	—	256	3072	68	80PT, 84PLCC	16 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	2 AUSART/ I^{2}C/SPI	40	✓	✓P	✓	2	25mA sink/source per I/O, PSP, Self-Programming, ICD
PIC18F872	131072 (FLASH)	65536x16 (FLASH)	—	256	3968	68	80PT, 84PLCC	16 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	2 AUSART/ I^{2}C/SPI	40	✓	✓P	✓	2	25mA sink/source per I/O, PSP, Self-Programming, ICD

FUTURE PRODUCTS

Product	Program Memory Bytes	Program Memory OTP/FLASH Words	Program Memory ROM Words	EEPROM Data Memory Bytes	RAM Bytes	I/O Pins	Packages	Analog 8-Bit ADC Channels	Analog Comparators	Digital PWM 10-Bit	Digital Timers/WDT	Digital Serial I/O	MAX Speed MHz	ICSP™	BOR/PBOR	PLVD	CCP/ECCP	Other Features
PIC18CXXX MCUs with CAN Interface: (Upwardly Compatible with PIC17C7XX/PIC16CXX/PIC16C5X/PIC12CXXX, 77 Instructions, C-compiler Efficient Instruction Set, Software Stack Capability, Table Operation, 4X PLL Clock, Switchable Oscillator Sources, 25mA Source/Sink per I/O)																		
PIC18F258	32768 (FLASH)	16384x16 (FLASH)	—	256	1536	23	28SP, 28SO	5 (10-bit)	—	1	3-16 bit, 1-8 bit, 1-WDT	USART/SPI/CAN 2.0B	40	✓	✓P	✓	2	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks, ICD
PIC18F458	32768 (FLASH)	16384x16 (FLASH)	—	256	1536	34	40P, 44L, 44PT	8 (10-bit)	2	2	3-16 bit, 1-8 bit, 1-WDT	USART/SPI/CAN 2.0B	40	✓	✓P	✓	2	Full CAN 2.0B, 3 transmit buffers, 2 receive buffers, 6 acceptance filters, 2 filter masks, PSP, ICD

Abbreviation:

9-bit = 9-bit USART Addressing Mode
ADC = Analog-to-Digital Converter
AUSART = Addressable USART
BOR = Brown-out Detection/Reset
CAP = Capture
CCP = Capture/Compare/PWM
DAC = Digital-to-Analog Converter
E^2 = EEPROM (Reprogrammable)
ECCP = Enhanced Capture/Compare/PWM
EMA = External Memory Addressing
I^2C = Inter-integrated Circuit Bus
ICD = In-Circuit Debug
LVD = Low Voltage Detection
LIN XCVR = Local Interconnection Network Transceiver
MI^2C/SPI = Master I^2C/SPI
PBOR = Programmable Brown-Out Detection/Reset
PLVD = Programmable Low-Voltage Detection
PSP = Parallel Slave Port
PWM = Pulse Width Modulator
SLAC = Slope A/D Converter, up to 16 bits
SLAC = Slope A/D Converter, up to 16 bits
SMB = System Management Bus
SPI = Serial Peripheral Interface
USART = Universal Synchronous/Asynchronous Receiver/Transmitter
USB = Universal Serial Bus
VREF = Voltage Reference
WDT = Watchdog Timer
✓P = Programmable

*Contact Microchip Technology for availability date.

ANALOG PRODUCTS

Product	Resolution	Speed (kps)	Number of Channels	Interface	Packages
ADCs:					
MCP3221	12	21	1	I^2C	SOT23-5, PDIP

Operational Amplifier Products (Micro Power):

Product	Number per Package	GBWP	I_Q (typical)	Vos	Operating Voltage	Temperature Range	Other Features	Packages
MCP616	1	150 kHz	25µA	125µV	2.5V to 5.5V	-40° to +80°C	Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP617	2	150 kHz	25µA	125µV	2.5V to 5.5V	-40° to +80°C	Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP618	1	150 kHz	25µA	125µV	2.5V to 5.5V	-40° to +80°C	Chip Select, Rail-to-Rail output	8P, 8SN, 8TSSOP
MCP619	4	150 kHz	25µA	125µV	2.5V to 5.5V	-40° to +80°C	Rail-to-Rail output	14P, 14SL, 14TSSOP

INTERFACE PRODUCTS — Controller Area Network (CAN) Devices

Product	Vcc Range	Temperature Range	Unique Features	Packages
MCP250XX	2.7V to 5.5V	I, E	Low cost CAN interface family for very simple CAN nodes.	P, SO

STAND ALONE ANALOG-TO-DIGITAL CONVERTER

Product	Resolution (bits)	Speed (ksps)	# of Channels	Unique Features	Packages
MCP3301	12+ sign-bit	120	1	Full differential I/P	8P, 8SN, 8TSSOP
MCP3304	12+ sign-bit	120	4	Full differential I/P	14P, 14SN, 14TSSOP
MCP3308	12+ sign-bit	120	8	Full differential I/P	16P, 16SN

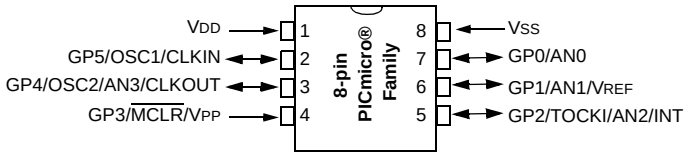
SECURE DATA PRODUCTS — KEELOQ® Code Hopping Encoders

Product	Transmission Code Length Bits	Code Hopping Bits	Prog. Encryption Key Bits	Seed Length	Operating Voltage	Function	Other Features	Inputs	Packages
HCS473	67/69	32	2 x 64	60	2.0V to 5.5V	4 X 15	Passive entry amplifier, PWM, Manchester encoding, Internal tunable oscillator, Stepup voltage regulation, Dual Encoder Operation, 3 coil input	6	14P, 14SL

7-HOLE PUNCH HERE

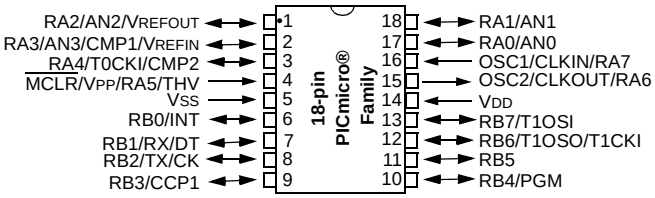
PIN AND CODE COMPATABILITY CHART

8-pin PICmicro MCU Family



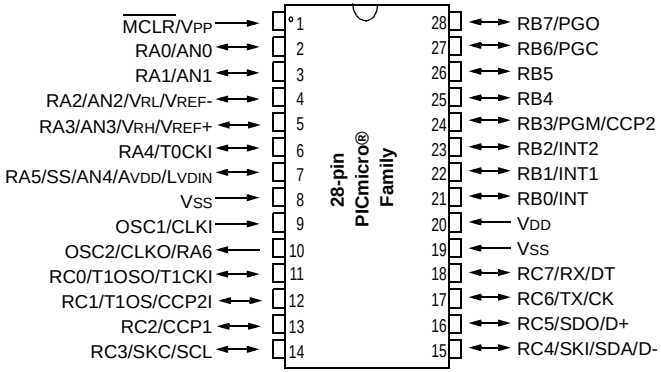
PIC12C508A	PIC12C671	PIC18F010
PIC12C509A	PIC12C672	PIC18F012
PIC12CR509A	PIC12CE673	PIC18F020
PIC12CE518	PIC12CE674	PIC18F022
PIC12CE519		

18-pin PICmicro MCU Family



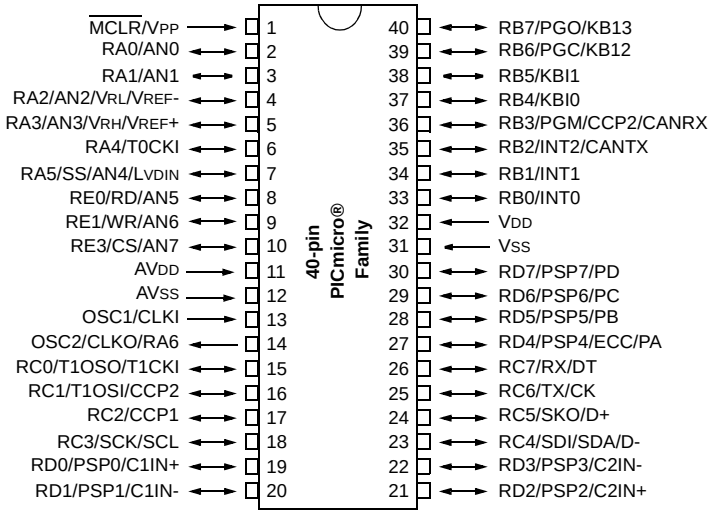
PIC16C620A	PIC16CE623	PIC16C710	PIC16F84A
PIC16CR620A	PIC16CE624	PIC16C711	PIC16F85
PIC16C621A	PIC16CE625	PIC16C712	PIC16F86
PIC16C622A		PIC16C715	PIC16F812
		PIC16C716	PIC16F816
		PIC16C717	

28-pin PICmicro MCU Family



PIC16C62B	PIC16F73	PIC16F873A
PIC16CR63	PIC16F76	PIC16F876
PIC16C63A	PIC16C642	PIC16F876A
PIC16C66	PIC16C745	PIC18C242
PIC16CR72	PIC16C773	PIC18C252
PIC16C72A	PIC16F870	PIC18F242
PIC16C73B	PIC16F872	PIC18F252
PIC16C76	PIC16F873	PIC18F258

40-pin PICmicro MCU Family

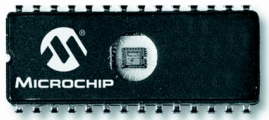


PIC16CR65	PIC16F77	PIC16F877
PIC16C65B	PIC16C765	PIC16F877A
PIC16C67	PIC16C774	PIC18C442
PIC16C662	PIC16F871	PIC18C452
PIC16C74B	PIC16F874	PIC18F442
PIC16F74	PIC16F874A	PIC18F452
		PIC18F458

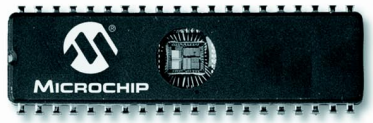
MICROCHIP PACKAGE OPTIONS

CERAMIC DUAL IN-LINE (CERDIP)

18-Lead CERDIP
"JW"



28-Lead CERDIP
"JW"



40-Lead CERDIP
"JW"

CERAMIC CHIP CARRIER (CERQUAD)

68-Lead CERQUAD
"CL"

PLASTIC DUAL IN-LINE (PDIP)

8-Lead PDIP
"P"

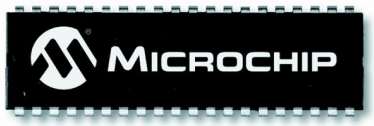
14-Lead PDIP
"P"

18-Lead PDIP
"P"

24-Lead PDIP
"P"

28-Lead PDIP
"P"

28-Lead Skinny PDIP
"SP"



40-Lead PDIP
"P"

PLASTIC LEADED CHIP CARRIER (PLCC)

32-Lead PLCC
"L"

44-Lead PLCC
"L"

68-Lead PLCC
"L"

84-Lead PLCC
"L"

MICROCHIP PACKAGE OPTIONS (CONTINUED)

PLASTIC QUAD FLATPACK (QFP)

44-Lead MQFP
"PQ"

PLASTIC SHRINK SMALL OUTLINE (SSOP)

20-Lead SSOP
"SS"

28-Lead SSOP
"SS"

PLASTIC THIN QUAD FLATPACK (TQFP)

44-Lead TQFP
"PT"

64-Lead TQFP
"PT"

80-Lead TQFP
"PT"

PLASTIC THIN SHRINK SMALL OUTLINE (TSSOP)

8-Lead TSSOP
(4.4mm) "ST"

14-Lead TSSOP
(4.4mm) "ST"

20-Lead TSSOP
(4.4mm) "ST"

SIDE BRAZED DUAL IN-LINE

8-Lead Side Brazed
"JW"

14-Lead Side Brazed
"JW"

28-Lead Side Brazed
(.300") "JW"

PLASTIC SMALL OUTLINE (SOIC)

8-Lead SOIC (EIAJ)
(.208") "SM"

16-Lead SOIC
(.150") "SL"

8-Lead SOIC
(.150") "SN"

18-Lead SOIC
"SO"

14-Lead SOIC
(.150") "SL"

28-Lead SOIC
"SO"

SMALL OUTLINE TRANSISTOR

3-Lead Transistor
"TO"

5-Lead SOT-23
"OT"

3-Lead SOT-23
"TT"

Leadless SOT385
"WM"

7-HOLE PUNCH HERE

Part Number Suffix Designations

XXXXXXXXXX - XX X/XX XXX

QTP, SQTP or ROM Code; Special Requirements

Package:

1C =	1000pF COB Module, .75mm	SL =	14-lead Small Outline (150 mil)
3C =	330pF COB Module, .45mm	SM =	8-lead Small Outline (207 mil)
L =	Plastic Leaded Chip Carrier (PLCC)	SN =	8-lead Small Outline (150 mil)
P =	Plastic DIP	SO =	Plastic Small Outline (SOIC) (300 mil)
S =	Die in Waffle Pack	SP =	Plastic Skinny DIP
W =	Die in Wafer Form	SS =	Plastic Shrink Small Outline (SSOP)
CB =	Chip on Board (COB)	ST =	Thin Shrink Small Outline (4.4 mm)
CL=	Windowed CERQUAD	TO-92 =	Transistor Outline
JW =	Windowed CERDIP	TS =	Thin Small Outline (8mm x 20mm)
ML =	Micro Lead frame	TT =	SOT-23-3 Small Outline Transistor
OT =	SOT-23-5	VS =	Very Small Outline (8mm x 12mm)
PQ =	Plastic Quad Flatpack (PQFP)	WB =	Bumped Wafer (11 mil)
PT =	Plastic Thin Quad Flatpack (TQFP)	WF =	Sawed Wafer on Frame (7 mil)
SB =	Bumped Die in Waffle Pack	WFB =	Bumped, Sawed Wafer on Frame
		WM =	SOT385 Leadless Module

Process Temperature:

Blank = 0°C to +70°C
I (Industrial) = –40°C to +85°C
E (Extended) = –40°C to +125°C

Speed: **OR** **Crystal Frequency Designator for PICmicro MCUs**

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

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)

AA =	1.8V EEPROM Memory	LCE =	Low Power CMOS EPROM/EEPROM MCU
C =	CMOS EPROM MCU	LCR =	Low Power CMOS ROM MCU
CE =	CMOS EPROM/EEPROM MCU	LCS =	Low Power Security
CR =	CMOS ROM MCU	LF =	Low Power FLASH MCU
F =	Flash MCU	LV =	Low Voltage
HC =	High Speed	24 =	2-Wire (I^2C)
HV =	High Voltage	25 =	SPI
LC =	Low Power CMOS EPROM MCU	93 =	3-Wire (Microwire®)

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