

Fourth Quarter 2010



## Focus Product Selector Guide

Featuring:

8-, 16- and 32-bit PIC® Microcontrollers

dsPIC® Digital Signal Controllers

Analog & Interface Products

Serial EEPROMs, Serial SRAMs, SST NOR Flash Memory

Wireless and RF Products



Training



Collateral



Development



Support



Design



Availability

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## 8-bit PIC® Microcontrollers

Based on a powerful RISC core, the PIC microcontroller architecture provides users with an easy migration path from 6 to 100 pins among all families, with little or no code change required. Advanced features include sophisticated timing peripherals, integrated analog-to-digital converters and communications peripherals (Ethernet/I<sup>2</sup>C™/SPI/USB/CAN ports and LIN USARTs). For more information visit: [www.microchip.com/8bit](http://www.microchip.com/8bit)

## 16-bit PIC® Microcontrollers

The 16-bit PIC24 Family is comprised of two sub-families. The PIC24F offers a cost-effective low power step up in performance, memory and peripherals for many applications that are pushing the envelope of 8-bit microcontroller capabilities. For more demanding applications, the PIC24H offers 40 MIPS performance, more memory and additional peripherals, such as CAN communication modules. For more information visit: [www.microchip.com/16bit](http://www.microchip.com/16bit)

## 32-bit PIC® Microcontrollers

The PIC32 family adds more performance and more memory while maintaining pin, peripheral and software compatibility with Microchip's 16-bit MCU/DSC families. The PIC32 family operates at up to 80 MHz and offers ample code and data space capabilities with up to 512 KB Flash and 128 KB RAM. For more information visit: [www.microchip.com/32bit](http://www.microchip.com/32bit)

## dsPIC® Digital Signal Controllers

The dsPIC family of Digital Signal Controllers (DSCs) features a fully implemented digital signal processor (DSP) engine, with up to 40 MIPS non-pipelined performance, C compiler friendly design, and a familiar microcontroller architecture and design environment. The dsPIC 16-bit Flash DSCs provide the industry's highest performance, and have features supporting motor control, digital power conversion, speech and audio, intelligent sensing and general purpose embedded control applications. For more information visit: [www.microchip.com/dsPIC](http://www.microchip.com/dsPIC)

## Analog and Interface Products

Microchip's integrated analog technology, peripherals and features are engineered to meet today's demanding design requirements. Our broad spectrum of analog products addresses

thermal management, power management, battery management, mixed-signal, linear, interface and safety & security solutions. Our broad portfolio of stand-alone analog and interface devices offers highly integrated solutions that combine various analog functions in space-saving packages and support a variety of bus interfaces. Many of these devices support functionality that enhances the analog features currently available on PIC® microcontrollers. For more information visit: [www.microchip.com/analog](http://www.microchip.com/analog)

## RF Front End Products

Microchip's selection of RF Front End devices enhance the performance and operating range of wireless products at 2.4 and 5 GHz. SST Power amplifier products provide high linear output power as required for 802.11 (WiFi®) and 802.15.4 (ZigBee®) standards with industry leading efficiency and reliability. Our selection of integrated Front End Modules (FEM), combines the function of power amplifier with switches, Low Noise Amplifier (LNA) and filters into a single space saving package. The FEM reduces board complexity and sizes. For more information visit:

[www.microchip.com/analog](http://www.microchip.com/analog)

## Wireless Products

Microchip offers radio-frequency products for adding wireless connectivity to embedded PIC microcontroller and dsPIC DSC-based designs for the following technologies: IEEE 802.15.4/ZigBee, Sub-GHz RF and IEEE 802.11/Wi-Fi. For more information visit: [www.microchip.com/wireless](http://www.microchip.com/wireless)

## Memory Products

Microchip's broad portfolio of memory devices include Serial EEPROM, Serial SRAM, Serial Flash and Parallel Flash Devices. Our innovative, low-power designs and extensive testing have ensured industry leading robustness and endurance along with best-in-class quality at low costs. For more information visit: [www.microchip.com/memory](http://www.microchip.com/memory)

## Real-Time Clocks

Microchip offers a family of highly integrated, low cost Real Time Clock/Calendar devices with battery backup capability, digital trimming along with onboard EEPROM and SRAM memory. For more information visit: [www.microchip.com/clock](http://www.microchip.com/clock)

## Table of Contents

8-bit PIC Microcontrollers .....	3	Linear .....	20
16-bit PIC Microcontrollers (PIC24F).....	9	Mixed Signal.....	20
16-bit PIC Microcontrollers (PIC24H) .....	12	Interface .....	21
32-bit PIC Microcontrollers .....	13	Safety & Security .....	21
dsPIC30F DSC Families .....	14	Motor Drivers .....	22
dsPIC33 DSC General Purpose Family.....	15	RF Products .....	22
dsPIC33 DSC Motor Control and Power Conversion Family.....	16	Serial Memory Products.....	23
dsPIC33 DSC SMPS and Digital Power Conversion Family.....	17	Real Time Clock/Calendar (RTCC).....	23
Analog and Interface Products		SST NOR Flash Memory .....	24
Thermal Management .....	18	Wireless Products .....	25
Power Management .....	18	Terms and Definitions .....	25
		Packaging.....	26















## 8-bit PIC<sup>®</sup> Microcontrollers

Product	Released (R) Not Released (NR)	Pins		Core	Memory				Operating Speed		Analog Sensing & Measurement				Digital				Communication				Monitors		Packages (Designator)	Special Features											
		Total	I/O		Program	Self-Read	Self-Write	Data RAM (B)	Data EE (B)	Voltage Range	Maximum Speed	Internal Oscillator	LCD Segments	mTouch <sup>™</sup> Channels	Charge Time Measurement Unit	8-bit ADC	10-bit ADC	12-bit ADC	Comparators	CCP	ECCP	8-bit Timer	16-bit Timer	AUSART			EUSART	I <sup>2</sup> C <sup>™</sup>	SPI	Internal (MACPHY)	FS-USB	ECAN	BOR/BOR	PLVD	SRLatch	Timer 1 Gate	5-ku Pricing <sup>1</sup>
PIC18F87K90	R	80	69	PIC18	128 KB 64 Kw	✓	✓	4096	1024	1.8V-5.5V	64 MHz	31 kHz, 500 kHz, 16 MHz	192	24	✓	-	-	-	24	3	7	3	6	5	-	2	2	2	-	-	BOR	✓	-	-	\$3.35	TOFP (PT)	Integrated LCD Driver, XLP
PIC18F87J50	R	80	65	PIC18	128 KB 64 Kw	✓	✓	3904	-	2V-3.6V	48 MHz	8 MHz, 31 kHz	0	-	-	-	12	-	2	2	3	2	3	-	2	2	2	-	1	-	BOR	✓	-	-	\$3.44	TOFP (PT)	USB 2.0 (Full Speed)
PIC18F86J60	R	80	55	PIC18	64 KB 32 Kw	✓	✓	3808	-	2V-3.6V	42 MHz	31 kHz	0	-	-	-	15	-	2	2	3	2	3	-	2	1	1	1	-	-	BOR	✓	-	-	\$3.63	TOFP (PT)	Integrated MAC, 10 Base T PHY
PIC18F8493	R	80	66	PIC18	16 KB 8 Kw	✓	-	768	-	2V-5.5V	32 MHz	8 MHz, 31 kHz	192	-	-	-	-	12	2	2	-	1	3	1	1	1	1	-	-	PBOR	SW0	-	-	\$3.78	TOFP (PT)	Integrated LCD Driver	
PIC18F87J60	R	80	55	PIC18	128 KB 64 Kw	✓	✓	3808	-	2V-3.6V	42 MHz	32 kHz, 31 kHz	0	-	-	-	15	-	2	2	3	2	3	-	2	1	1	1	-	-	BOR	✓	-	-	\$3.92	TOFP (PT)	Integrated MAC, 10 Base T PHY
PIC18F8732	R	80	70	PIC18	128 KB 64 Kw	✓	✓	3936	1024	2V-5.5V	40 MHz	8 MHz, 31 kHz	0	-	-	-	16	2	2	3	2	3	-	2	2	2	-	-	PBOR	SW0	-	-	\$8.44	TOFP (PT)	-		
PIC18F96J60	R	100	70	PIC18	64 KB 32 Kw	✓	✓	3808	-	2V-3.6V	42 MHz	31 kHz	0	-	-	-	16	-	2	2	3	2	3	-	2	2	2	1	-	-	BOR	✓	-	-	\$3.84	TOFP (PT)	Integrated MAC, 10 Base T PHY
PIC18F97J60	R	100	70	PIC18	128 KB 64 Kw	✓	✓	3808	-	2V-3.6V	42 MHz	31 kHz	0	-	-	-	16	-	2	2	3	2	3	-	2	2	2	1	-	-	BOR	✓	-	-	\$4.13	TOFP (PT), LOFP (PL)	Integrated MAC, 10 Base T PHY

## 16 bit PIC<sup>®</sup> Microcontrollers (PIC24F)

Product	Released (R) Not Released (NR)	IO Pins	Core	Memory				Operating Speed		Analog Sensing & Measurement				Digital				Communication				Monitors		Packages (Designator)			
				Program (KB)	Data RAM (B)	EEPROM	DMA #Ch	Voltage Range	Maximum MIPS	Internal Oscillator	Charge Time Measurement Unit	10-bit ADC	10/12-bit ADC 1100/500 KSPS	Comparators	Graphics Controller	Output Compare/FWM	Input Capture	16-bit Timer <sup>2</sup>	Digital Communication	FS-USB OTG	PMP	RTCC/CRC	PPS		5-ku Pricing <sup>1</sup>	System Mgmt. Features	
PIC24F04KA200	R	12	PIC24	4	512	AN1095 <sup>3</sup>	-	1.8V-3.6V	16	8 MHz, 32 kHz	✓	7	-	2	-	1	1	3	1	UART, 1 SPI, 1 PC	-	-	-	-	\$1.16	BOR, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (MQL)
PIC24F04KA201	R	18	PIC24	4	512	AN1095 <sup>3</sup>	-	1.8V-3.6V	16	8 MHz, 32 kHz	✓	9	-	2	-	1	1	3	1	UART, 1 SPI, 1 PC	-	-	-	-	\$1.25	BOR, POR, WDT, Deep Sleep, XLP	PDIP (P), SSOP (SS), SOIC (SO), OFN (MQL)
PIC24F08KA101	R	18	PIC24	8	1536	512	-	1.8V-3.6V	16	8 MHz, 32 kHz	✓	9	-	2	-	1	1	3	2	UART, 1 SPI, 1 PC	-	-	✓	-	\$1.44	BOR, POR, WDT, Deep Sleep, XLP	PDIP (P), SSOP (SS), SOIC (SO), OFN (MQL)
PIC24F16KA101	R	18	PIC24	16	1536	512	-	1.8V-3.6V	16	8 MHz, 32 kHz	✓	9	-	2	-	1	1	3	2	UART, 1 SPI, 1 PC	-	-	✓	-	\$1.51	BOR, POR, WDT, Deep Sleep, XLP	PDIP (P), SSOP (SS), SOIC (SO), OFN (MQL)
PIC24F16KA301	NR	18	PIC24	16	2048	512	-	1.8V-5.5V	16	8 MHz, 32 kHz	✓	-	9	3	-	3	3	5	2	UART, 2 SPI, 2 PC	-	-	✓	-	\$1.86	PWRT, HLVD, POR, OST, WDT	SPDIP (P), SSOP (SS), SOIC (SO)
PIC24F32KA301	NR	18	PIC24	32	2048	512	-	1.8V-5.5V	16	8 MHz, 32 kHz	✓	-	9	3	-	3	3	5	2	UART, 2 SPI, 2 PC	-	-	✓	-	\$2.00	PWRT, HLVD, POR, OST, WDT	SPDIP (P), SSOP (SS), SOIC (SO)
PIC24F08KA102	R	24	PIC24	8	1536	512	-	1.8V-3.6V	16	8 MHz, 32 kHz	✓	9	-	2	-	1	1	3	2	UART, 1 SPI, 1 PC	-	-	✓	-	\$1.51	BOR, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24F16KA102	R	24	PIC24	16	1536	512	-	1.8V-3.6V	16	8 MHz, 32 kHz	✓	9	-	2	-	1	1	3	2	UART, 1 SPI, 1 PC	-	-	✓	-	\$1.58	BOR, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24FJ16GA002	R	21	PIC24	16	4096	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	10	-	2	-	5	5	5	2	UART, 2 SPI, 2 PC	-	✓	✓	✓	\$1.74	BOR, LVD, POR, WDT	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24FJ32GA002	R	21	PIC24	32	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	10	-	2	-	5	5	5	2	UART, 2 SPI, 2 PC	-	✓	✓	✓	\$2.06	BOR, LVD, POR, WDT	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24F16KA302	NR	24	PIC24	16	2048	512	-	1.8V-5.5V	16	8 MHz, 32 kHz	✓	-	10	3	-	3	3	5	2	UART, 2 SPI, 2 PC	-	-	✓	-	\$2.06	PWRT, HLVD, POR, OST, WDT	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24F32KA302	NR	24	PIC24	32	2048	512	-	1.8V-5.5V	16	8 MHz, 32 kHz	✓	-	10	3	-	3	3	5	2	UART, 2 SPI, 2 PC	-	-	✓	-	\$2.20	PWRT, HLVD, POR, OST, WDT	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24FJ32GA102	R	21	PIC24	32	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	10	-	3	-	5	5	5	2	UART, 2 SPI, 2 PC	-	✓	✓	✓	\$2.23	BOR, LVD, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SOIC (SO), OFN (ML)
PIC24FJ32GB002	R	19	PIC24	32	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	9	-	3	-	5	5	5	2	UART, 2 SPI, 2 PC	✓	✓	✓	✓	\$2.44	BOR, LVD, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SOIC (SO), OFN (ML)
PIC24FJ64GA002	R	21	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	10	-	2	-	5	5	5	2	UART, 2 SPI, 2 PC	-	✓	✓	✓	\$2.48	BOR, LVD, POR, WDT	SPDIP (SP), SSOP (SS), SOIC (SO), OFN (ML)
PIC24FJ64GA102	R	21	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	10	-	3	-	5	5	5	2	UART, 2 SPI, 2 PC	-	✓	✓	✓	\$2.65	BOR, LVD, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SOIC (SO), OFN (ML)
PIC24FJ64GB002	R	19	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	9	-	3	-	5	5	5	2	UART, 2 SPI, 2 PC	✓	✓	✓	✓	\$2.86	BOR, LVD, POR, WDT, Deep Sleep, XLP	SPDIP (SP), SOIC (SO), OFN (ML)

<sup>3</sup>Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

1 - Pricing subject to change; please contact your Microchip representative for most current pricing.

◊ - Software PLVD implemented via ADC.

### 16 bit PIC® Microcontrollers (PIC24F)

Product	Released (R) / Not Released (NR)		MO Pins	Core	Memory				Voltage Range	Operating Speed		Analog Sensing & Measurement					Input Capture	16-bit Timer <sup>2</sup>	Communication					System Mgmt. Features	Packages (Designator)			
	Released (R)	Not Released (NR)			Program (KB)	Data RAM (B)	EEPROM	DMA Ch		Maximum MIPS	Internal Oscillator	Charge Time Measurement Unit	10-bit ADC	10/12-bit ADC 1100/500 KSPS	Comparators	Graphics Controller			Output Compare/PWM	Digital Communication	FS/USB/OTG	PMP	RTCC/RCR			PPS	5 Au Pricing <sup>1</sup>	
PIC24FJ16GA004	R	35	PIC24	16	4096	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	13	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$1.93	BOR, LVD, POR, WDT	TQFP (PT), OFN (ML)	44-Pin
PIC24FJ32GA004	R	35	PIC24	32	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	13	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$2.30	BOR, LVD, POR, WDT	TQFP (PT), OFN (ML)	
PIC24F16KA304	NR	38	PIC24	16	2048	512	-	1.8V-5.5V	16	8 MHz, 32 kHz	✓	-	16	3	-	3	3	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	-	\$2.30	PWRT, HLVD, POR, OST, WDT	TQFP (PT), OFN (ML), UOFN (MV)	
PIC24FJ32GA104	R	35	PIC24	32	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	13	-	3	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$2.44	BOR, LVD, POR, WDT, Deep Sleep, XLP	TQFP (PT), OFN (ML)	
PIC24F32KA304	NR	38	PIC24	32	2048	512	-	1.8V-5.5V	16	8 MHz, 32 kHz	✓	-	16	3	-	3	3	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	-	\$2.44	PWRT, HLVD, POR, OST, WDT	TQFP (PT), OFN (ML), UOFN (MV)	
PIC24FJ32GB004	R	33	PIC24	32	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	13	-	3	-	5	5	5	2 UART, 2 SPI, 2 PC	✓	✓	✓	✓	✓	\$2.65	BOR, LVD, POR, WDT, Deep Sleep, XLP	TQFP (PT), OFN (ML)	
PIC24FJ64GA004	R	35	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	13	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$2.72	BOR, LVD, POR, WDT	TQFP (PT), OFN (ML)	
PIC24FJ64GA104	R	35	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	13	-	3	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$2.88	BOR, LVD, POR, WDT, Deep Sleep, XLP	TQFP (PT), OFN (ML)	
PIC24FJ64GB004	R	33	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	13	-	3	-	5	5	5	2 UART, 2 SPI, 2 PC	✓	✓	✓	✓	✓	\$3.07	BOR, LVD, POR, WDT, Deep Sleep, XLP	TQFP (PT), OFN (ML)	
PIC24FJ64GA006	R	53	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$3.05	BOR, POR, WDT	TQFP (PT)	
PIC24FJ128GA006	R	53	PIC24	128	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$3.35	BOR, POR, WDT	TQFP (PT)	
PIC24FJ128GA106	R	53	PIC24	128	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	-	-	✓	✓	\$3.56	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ64GB106	R	52	PIC24	64	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$3.64	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ192GA106	R	53	PIC24	192	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	-	-	✓	✓	\$3.77	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ128GB106	R	52	PIC24	128	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$3.93	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ256GA106	R	53	PIC24	256	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	-	-	✓	✓	\$3.98	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ192GB106	R	52	PIC24	192	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.14	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ128GB206	R	52	PIC24	128	98304	AN1095 <sup>3</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.30	BOR, LVD, POR, WDT	TQFP (PT), OFN (MR)	
PIC24FJ128DA106	R	52	PIC24	128	24576	AN1095 <sup>3</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	-	-	✓	✓	\$4.34	BOR, LVD, POR, WDT	TQFP (PT), OFN (MR)	
PIC24FJ256GB106	R	52	PIC24	256	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.35	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ256GB206	R	52	PIC24	256	98304	AN1095 <sup>3</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.65	BOR, LVD, POR, WDT	TQFP (PT), OFN (MR)	
PIC24FJ256DA106	R	52	PIC24	256	24576	AN1095 <sup>3</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	-	-	✓	✓	\$4.69	BOR, LVD, POR, WDT	TQFP (PT), OFN (MR)	
PIC24FJ128DA206	R	52	PIC24	128	98304	AN1095 <sup>3</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	-	-	✓	✓	\$4.76	BOR, LVD, POR, WDT	TQFP (PT), OFN (MR)	
PIC24FJ256DA206	R	52	PIC24	256	98304	AN1095 <sup>3</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	-	-	✓	✓	\$5.11	BOR, LVD, POR, WDT	TQFP (PT), OFN (MR)	
PIC24FJ64GA008	R	69	PIC24	64	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$3.30	BOR, POR, WDT	TQFP (PT)	
PIC24FJ128GA008	R	69	PIC24	128	8192	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	-	-	✓	✓	\$3.60	BOR, POR, WDT	TQFP (PT)	
PIC24FJ128GA108	R	69	PIC24	128	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	-	-	✓	✓	\$3.82	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ64GB108	R	68	PIC24	64	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$3.91	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ192GA108	R	69	PIC24	192	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	-	-	✓	✓	\$4.03	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ128GB108	R	68	PIC24	128	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.20	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ256GA108	R	69	PIC24	256	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	-	-	✓	✓	\$4.24	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ192GB108	R	68	PIC24	192	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.41	BOR, LVD, POR, WDT	TQFP (PT)	
PIC24FJ256GB108	R	68	PIC24	256	16384	AN1095 <sup>3</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	✓	\$4.62	BOR, LVD, POR, WDT	TQFP (PT)	

<sup>\*</sup> Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

<sup>†</sup> - Pricing subject to change; please contact your Microchip representative for most current pricing.

◊ - Software PLVD implemented via ADC.

## 16 bit PIC® Microcontrollers (PIC24F)

Product	Released (R) Not Released (NR)	IO Pins	Core	Memory				Voltage Range	Operating Speed		Analog Sensing & Measurement					Input Capture	16-bit Timer <sup>2</sup>	Communication					Monitors	Packages (Designator)		
				Program (KB)	Data RAM (B)	EEPROM	DMA Ch		Maximum MIPS	Internal Oscillator	Charge Time Measurement Unit	10-bit ADC	10/12-bit ADC 1100/500 KSPS	Comparators	Graphics Controller			Output Compare/PWM	Digital Communication	FS USB OTG	PMP	RTCC/CRC			PPS	5 ku Pricing <sup>1</sup>
PIC24FJ64GA010	R	85	PIC24	64	8192	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	✓	-	-	\$3.51	BOR, POR, WDT	TQFP (PT)
PIC24FJ128GA010	R	85	PIC24	128	8192	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	-	16	-	2	-	5	5	5	2 UART, 2 SPI, 2 PC	-	✓	✓	-	\$3.81	BOR, POR, WDT	TQFP (PT)
PIC24FJ128GA110	R	85	PIC24	128	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	✓	✓	✓	\$4.03	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ64GB110	R	84	PIC24	64	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.12	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ192GA110	R	85	PIC24	192	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	✓	✓	✓	\$4.24	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ128GB110	R	84	PIC24	128	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	16 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.41	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ256GA110	R	85	PIC24	256	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	✓	✓	✓	\$4.45	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ192GB110	R	84	PIC24	192	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.62	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ128GB210	R	84	PIC24	128	98304	AN1095 <sup>1</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.79	BOR, LVD, POR, WDT	TQFP (PT), BGA121 (BG)
PIC24FJ128DA110	R	84	PIC24	128	24576	AN1095 <sup>1</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.83	BOR, LVD, POR, WDT	TQFP (PT), BGA121 (BG)
PIC24FJ256GB110	R	84	PIC24	256	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.83	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ256GB210	R	84	PIC24	256	98304	AN1095 <sup>1</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$5.14	BOR, LVD, POR, WDT	TQFP (PT), BGA121 (BG)
PIC24FJ256DA110	R	84	PIC24	256	24576	AN1095 <sup>1</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$5.18	BOR, LVD, POR, WDT	TQFP (PT), BGA121 (BG)
PIC24FJ128DA210	R	84	PIC24	128	98304	AN1095 <sup>1</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$5.25	BOR, LVD, POR, WDT	TQFP (PT), BGA121 (BG)
PIC24FJ256DA210	R	84	PIC24	256	98304	AN1095 <sup>1</sup>	-	2.2V-3.6V	16	8 MHz, 32 kHz	✓	24	-	3	✓	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$5.60	BOR, LVD, POR, WDT	TQFP (PT), BGA121 (BG)
PIC24FJ128B108	R	68	PIC24	128	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.20	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ256GA108	R	69	PIC24	256	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	-	✓	✓	✓	\$4.24	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ192GB108	R	68	PIC24	192	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.41	BOR, LVD, POR, WDT	TQFP (PT)
PIC24FJ256GB108	R	68	PIC24	256	16384	AN1095 <sup>1</sup>	-	2V-3.6V	16	8 MHz, 32 kHz	✓	16	-	3	-	9	9	5	4 UART, 3 SPI, 3 PC	✓	✓	✓	✓	\$4.62	BOR, LVD, POR, WDT	TQFP (PT)

\*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

† - Pricing subject to change; please contact your Microchip representative for most current pricing.

◊ - Software PLVD implemented via ADC.

## 16-bit PIC® Microcontrollers (PIC24H)

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory				Voltage Range	Operating Speed		Analog Sensing & Measurement				Input Capture	16-bit Timer <sup>2</sup>	Communication					5 ku Pricing <sup>1</sup>	Monitors	Packages (Designator)						
				Program KB	Data RAM (B)	EEPROM	DMA KCh		Maximum MIPS	Internal Oscillator	Charge Time Measurement Unit	10-bit ADC	10/12-bit ADC 1100/500 KSPS	Comparators			Output Compare/PWM	Digital Communication	CAN	FS/USB OTG	PMP				RTCC/RCR	PPS	System Mgmt. Features			
18-Pin	PIC24HJ12GP201	R	13	PIC24	12	1024	AN1095 <sup>3</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	6 ch	-	2	4	3	1 UART, 1 SPI, 1 PC	-	-	-	-	✓	\$2.09	PBOR, POR, WDT	PDIP (P), SOIC (SO)	18-Pin		
28-Pin	PIC24HJ12GP202	R	21	PIC24	12	1024	AN1095 <sup>3</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	-	2	4	3	1 UART, 1 SPI, 1 PC	-	-	-	-	✓	\$2.24	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM), SSOP(SS)	28-Pin		
	PIC24HJ32GP202*	R	21	PIC24	32	2048	AN1095 <sup>3</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	-	2	4	3	1 UART, 1 SPI, 1 PC	-	-	-	-	✓	\$2.40	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM)			
	PIC24HJ32GP302	R	21	PIC24	32	4096	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	-	-	-	-	✓	\$2.76	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM)			
	PIC24HJ64GP202	R	21	PIC24	64	4096	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	-	-	-	-	✓	\$3.12	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM)			
	PIC24HJ64GP502*	R	21	PIC24	64	4096	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	1	-	-	-	✓	\$3.33	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM)			
	PIC24HJ128GP202	R	21	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	-	-	-	-	✓	\$3.44	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM)			
44-Pin	PIC24HJ128GP502*	R	21	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	10 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	1	-	-	-	✓	\$3.65	PBOR, POR, WDT	SOIC (SO), SPDIP (SP), OFN (MM)	44-Pin		
	PIC24HJ16GP304*	R	35	PIC24	16	2048	AN1095 <sup>3</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	-	2	4	3	1 UART, 1 SPI, 1 PC	-	-	-	-	✓	\$2.42	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	PIC24HJ32GP204*	R	35	PIC24	32	2048	AN1095 <sup>3</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	-	2	4	3	1 UART, 1 SPI, 1 PC	-	-	-	-	✓	\$2.49	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	PIC24HJ32GP304	R	35	PIC24	32	4096	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	-	-	-	-	✓	\$2.82	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	PIC24HJ64GP204	R	35	PIC24	64	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	-	-	-	-	✓	\$3.29	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	PIC24HJ64GP504*	R	35	PIC24	64	4096	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	1	-	-	-	✓	\$3.58	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	PIC24HJ128GP204	R	35	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	-	-	-	-	✓	\$3.58	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	PIC24HJ128GP504*	R	35	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	13 ch	2	4	4	5	2 UART, 2 SPI, 1 PC	1	-	-	-	✓	\$3.88	PBOR, POR, WDT	TOFP (PT), OFN (ML)			
	64-Pin	PIC24HJ64GP206A	R	53	PIC24	64	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	8	8	9	2 UART, 2 SPI, 1 PC	-	-	-	-	-	\$3.39	PBOR, POR, WDT		TOFP (PT), OFN (MR)	64-Pin
		PIC24HJ64GP506A	R	53	PIC24	64	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	1	-	-	-	-	\$3.60	PBOR, POR, WDT		TOFP (PT), OFN (MR)	
PIC24HJ128GP206A		R	53	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	8	8	9	2 UART, 2 SPI, 1 PC	-	-	-	-	-	\$3.63	PBOR, POR, WDT	TOFP (PT), OFN (MR)			
PIC24HJ128GP306A		R	53	PIC24	128	16384	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	-	-	-	-	-	\$3.79	PBOR, POR, WDT	TOFP (PT), OFN (MR)			
PIC24HJ128GP506A*		R	53	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	1	-	-	-	-	\$3.85	PBOR, POR, WDT	TOFP (PT), OFN (MR)			
PIC24HJ256GP206A*		R	53	PIC24	256	16384	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	18 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	-	-	-	-	-	\$4.05	PBOR, POR, WDT	TOFP (PT), PF			
100-Pin	PIC24HJ64GP210A	R	85	PIC24	64	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	-	-	-	-	-	\$3.88	PBOR, POR, WDT	TOFP (PT), PF	100-Pin		
	PIC24HJ64GP510A	R	85	PIC24	64	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	1	-	-	-	-	\$4.06	PBOR, POR, WDT	TOFP (PT), PF			
	PIC24HJ128GP210A	R	85	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	-	-	-	-	-	\$4.14	PBOR, POR, WDT	TOFP (PT), PF			
	PIC24HJ128GP310A	R	85	PIC24	128	16384	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	-	-	-	-	-	\$4.26	PBOR, POR, WDT	TOFP (PT), PF			
	PIC24HJ128GP510A*	R	85	PIC24	128	8192	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	1	-	-	-	-	\$4.31	PBOR, POR, WDT	TOFP (PT), PF			
	PIC24HJ256GP210A	R	85	PIC24	256	16384	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	-	-	-	-	-	\$4.63	PBOR, POR, WDT	TOFP (PT), PF			
	PIC24HJ256GP610A*	R	85	PIC24	256	16384	AN1095 <sup>3</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	-	-	2 ADC 32 ch	-	8	8	9	2 UART, 2 SPI, 2 PC	2	-	-	-	-	\$5.08	PBOR, POR, WDT	TOFP (PT), PF			

\*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

1 - Pricing subject to change; please contact your Microchip representative for most current pricing.

## 32-bit PIC32 Microcontrollers

Product	Released (R) Not Released (NR)	Core	Memory			DMA Channels General/Dedicated	Voltage Range	Operating Speed		Analog			Timers 16/32-bit	Communication						PMP	RTCC	5-yr Pricing <sup>1</sup>	Monitors	
			Flash KB + Boot Flash	Data RAM (KB)	EEPROM			Maximum Speed MHz	Internal Oscillator	ADC 10-bit 1000 Sps	Comparators	IC/OC/PWM		SPI	I <sup>2</sup> C™	UARTs	FSUSB OTG	Ethernet	CAN				System Mgmt. Features	Packages (Designator)
PIC32MX320F032H	R	PIC32	32 + 12	8	AN1095 <sup>2</sup>	0/0	2.3V-3.6V	40	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$3.09	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX320F064H	R	PIC32	64 + 12	16	AN1095 <sup>2</sup>	0/0	2.3V-3.6V	40	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$3.36	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX420F032H	R	PIC32	32 + 12	8	AN1095 <sup>2</sup>	0/2	2.3V-3.6V	40	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$3.36	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX320F064H	R	PIC32	64 + 12	16	AN1095 <sup>2</sup>	0/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$3.51	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX320F128H	R	PIC32	128 + 12	16	AN1095 <sup>2</sup>	0/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$3.75	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX340F128H	R	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$3.96	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX440F128H	R	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/2	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$4.23	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX340F256H	R	PIC32	256 + 12	32	AN1095 <sup>2</sup>	4/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$4.31	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX440F256H	R	PIC32	256 + 12	32	AN1095 <sup>2</sup>	4/2	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$4.58	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX340F512H	R	PIC32	512 + 12	32	AN1095 <sup>2</sup>	4/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$4.77	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX575F256H	R	PIC32	256 + 12	64	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	-	1	✓	1	\$4.96	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX440F512H	R	PIC32	512 + 12	32	AN1095 <sup>2</sup>	4/2	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$5.04	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX775F256H	R	PIC32	256 + 12	64	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	-	✓	1	\$5.19	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX775F512H	R	PIC32	512 + 12	64	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	-	1	✓	1	\$5.42	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX775F256H	R	PIC32	256 + 12	64	AN1095 <sup>2</sup>	8/8	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	2	✓	1	\$5.42	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX775F512H	R	PIC32	512 + 12	64	AN1095 <sup>2</sup>	8/8	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	2	✓	1	\$5.66	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX695F512H	R	PIC32	512 + 12	128	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	-	✓	1	\$6.13	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX795F512H	R	PIC32	512 + 12	128	AN1095 <sup>2</sup>	8/8	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	2	✓	1	\$6.36	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX534F064H	NR	PIC32	64 + 12	16	AN1095 <sup>2</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	-	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX564F064H	NR	PIC32	64 + 12	32	AN1095 <sup>2</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	-	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX564F128H	NR	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	-	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX664F064H	NR	PIC32	64 + 12	32	AN1095 <sup>2</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	-	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX664F128H	NR	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	-	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX764F128H	NR	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/6	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	3	4	6	✓	10/100	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT), OFN (MR)
PIC32MX320F128L	R	PIC32	128 + 12	16	AN1095 <sup>2</sup>	0/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$4.44	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX340F128L	R	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$4.44	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX440F128L	R	PIC32	128 + 12	32	AN1095 <sup>2</sup>	4/2	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$4.70	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX360F256L	R	PIC32	256 + 12	32	AN1095 <sup>2</sup>	4/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$4.79	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX460F256L	R	PIC32	256 + 12	32	AN1095 <sup>2</sup>	4/2	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$5.05	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX360F512L	R	PIC32	512 + 12	32	AN1095 <sup>2</sup>	4/0	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	-	-	-	✓	1	\$5.25	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX575F256L	R	PIC32	256 + 12	64	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	-	1	✓	1	\$5.43	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX460F512L	R	PIC32	512 + 12	32	AN1095 <sup>2</sup>	4/2	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	2	2	2	✓	-	-	✓	1	\$5.52	POR, BOR, LVD, WDT	TOFP (PT), XBGA (BG)
PIC32MX675F256L	R	PIC32	256 + 12	64	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	-	✓	1	\$5.67	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX757F512L	R	PIC32	512 + 12	64	AN1095 <sup>2</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	-	1	✓	1	\$5.89	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX775F256L	R	PIC32	256 + 12	64	AN1095 <sup>2</sup>	8/8	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	2	✓	1	\$5.89	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

Products sorted by pin count followed by pricing.

1 - Pricing subject to change; please contact your Microchip representative for most current pricing.

100-Pin

64-Pin

### 32-bit PIC32 Microcontrollers

Product	Released (R) Not Released (NR)	Core	Memory			DMA Channels General/Dedicated	Voltage Range	Operating Speed		Analog			Timers 16/32-bit	Communication					PMP	RTCC	\$/ku Pricing <sup>1</sup>	Monitors		Packages (Designator)
			Flash KB + Boot Flash	Data RAM (KB)	EEPROM			Maximum Speed MHz	Internal Oscillator	ADC 10-bit 1000 ksps	Comparators	IC/CP/PWM		SPI	I <sup>2</sup> C™	UARTs	FS/USB/OTG	Ethernet				CAN	System Mgmt. Features	
PIC32MX675F512L	R	PIC32	512 + 12	64	AN1095 <sup>1</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	-	✓	1	\$6.13	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX775F512L	R	PIC32	512 + 12	64	AN1095 <sup>1</sup>	8/8	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	-	✓	1	\$6.36	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX695F512L	R	PIC32	512 + 12	128	AN1095 <sup>1</sup>	8/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	-	✓	1	\$6.61	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX795F512L	R	PIC32	512 + 12	128	AN1095 <sup>1</sup>	8/8	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	2	✓	1	\$6.83	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX534F064L	NR	PIC32	64+12	16	AN1095 <sup>1</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	-	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX564F064L	NR	PIC32	64+12	32	AN1095 <sup>1</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	-	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX564F128L	NR	PIC32	128+12	32	AN1095 <sup>1</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	-	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX664F064L	NR	PIC32	64+12	32	AN1095 <sup>1</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	-	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX664F128L	NR	PIC32	128+12	32	AN1095 <sup>1</sup>	4/4	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	-	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)
PIC32MX764F128L	NR	PIC32	128+12	32	AN1095 <sup>1</sup>	4/6	2.3V-3.6V	80	8 MHz, 32 kHz	16 ch	2	5/5/5	5/1	4	5	6	✓	10/100	1	✓	1	Call for Pricing	POR, BOR, LVD, WDT	TOFP (PT, PF), XBGA (BG)

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

### dsPIC30F DSC Families

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory			Voltage Range	Maximum Speed MIPS	Internal Oscillator	Analog			Output Compare/PWM	Input Capture	Motor Control PWM Ch	Power Supply PWM Ch	OEI	Codec (I <sup>2</sup> S, AC97)	16-bit Timer <sup>1</sup>	Communication		PMP	RTCC	\$/ku Pricing <sup>1</sup>	Monitors		Packages (Designator)
				Program KB	Data RAM (B)	EEPROM				ADC	DAC	Comparators								Digital Communication	CAN				System Mgmt. Features	System Mgmt. Features	
dsPIC30F3012	R	12	dsPIC	24	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	8 x 12-bit @ 200 (ksps)	-	-	2	2	-	-	-	3	1 UART, 1 SPI, 1 I <sup>2</sup> C	-	\$2.68	PBOR, LVD, POR, WDT	PDIP (P), SOIC (SO), OFN (ML)	18-Pin			
dsPIC30F2010	R	20	dsPIC	12	512	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	6 x 10-bit @ 1000 (ksps)	-	-	2	4	6	-	1	3	1 UART, 1 SPI, 1 I <sup>2</sup> C	-	\$2.43	PBOR, LVD, POR, WDT	SOIC (SO), SPDIP (SP), OFN (ML), PDIP (P)	28-Pin			
dsPIC30F3013	R	20	dsPIC	24	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	10 x 12-bit @ 200 (ksps)	-	-	2	2	-	-	-	3	2 UART, 1 SPI, 1 I <sup>2</sup> C	-	\$2.77	PBOR, LVD, POR, WDT	SOIC (SO), SPDIP (SP), OFN (ML)	28-Pin			
dsPIC30F4012	R	20	dsPIC	48	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	6 x 10-bit @ 1000 (ksps)	-	-	2	4	6	-	1	5	1 UART, 1 SPI, 1 I <sup>2</sup> C	1	\$3.71	PBOR, LVD, POR, WDT	SOIC (SO), SPDIP (SP), OFN (ML)	40-Pin			
dsPIC30F4013	R	30	dsPIC	48	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	13 x 12-bit @ 200 (ksps)	-	-	4	4	-	-	1	5	2 UART, 1 SPI, 1 I <sup>2</sup> C	1	\$3.91	PBOR, LVD, POR, WDT	PDIP (P), TOFP (PT), OFN (ML)	40-Pin			
dsPIC30F4011	R	30	dsPIC	48	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	9 x 10-bit @ 1000 (ksps)	-	-	4	4	6	-	1	5	2 UART, 1 SPI, 1 I <sup>2</sup> C	1	\$4.02	PBOR, LVD, POR, WDT	PDIP (P), TOFP (PT), OFN (ML)	40-Pin			
dsPIC30F5015	R	52	dsPIC	66	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	16 x 10-bit @ 1000 (ksps)	-	-	4	4	8	-	1	5	1 UART, 2 SPI, 1 I <sup>2</sup> C	1	\$5.08	PBOR, LVD, POR, WDT	TOFP (PT)	64-Pin			
dsPIC30F6011A	R	52	dsPIC	132	6144	2048	2.5V-5.5V	30	7.37 MHz, 32 kHz	16 x 12-bit @ 200 (ksps)	-	-	8	8	-	-	1	5	2 UART, 2 SPI, 1 I <sup>2</sup> C	2	\$6.89	PBOR, LVD, POR, WDT	TOFP (PT)	64-Pin			
dsPIC30F5016	R	68	dsPIC	66	2048	1024	2.5V-5.5V	30	7.37 MHz, 32 kHz	16 x 10-bit @ 1000 (ksps)	-	-	4	4	8	-	1	5	1 UART, 2 SPI, 1 I <sup>2</sup> C	1	\$5.59	PBOR, LVD, POR, WDT	TOFP (PF)	80-Pin			
dsPIC30F6014A	R	68	dsPIC	144	8192	4096	2.5V-5.5V	30	7.37 MHz, 32 kHz	16 x 12-bit @ 200 (ksps)	-	-	8	8	-	-	1	5	2 UART, 2 SPI, 1 I <sup>2</sup> C	2	\$7.25	PBOR, LVD, POR, WDT	TOFP (PF)	80-Pin			
dsPIC30F6010A	R	68	dsPIC	144	8192	4096	2.5V-5.5V	30	7.37 MHz, 32 kHz	16 x 10-bit @ 1000 (ksps)	-	-	8	8	8	-	1	5	2 UART, 2 SPI, 1 I <sup>2</sup> C	2	\$7.36	PBOR, LVD, POR, WDT	TOFP (PF)	80-Pin			

Note 1: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

1 - Pricing subject to change; please contact your Microchip representative for most current pricing.

## dsPIC33 DSC General Purpose Family

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory				Voltage Range	Maximum Speed MIPS	Internal Oscillator	Analog			Output Compare/PWM	Input Capture	Cyclic (FS, AC97)	16-bit Timer <sup>2</sup>	Communication				5 ku Pricing <sup>1</sup>	Monitors System Mgmt. Features	Packages (Designator)	
				Program KB	Data RAM (B)	EEPROM	DMA Ch				ADC 10/12-bit 1100/50 ksps	DAC	Comparators					Digital Communication	CAN	PNP	RTCCCR				PPS
dsPIC33FJ12GP201	R	13	dsPIC*	12	1024	AN1095 <sup>1</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.09	PBOR, POR, WDT	PDIP (P), SOIC (SO)
dsPIC33FJ12GP202	R	21	dsPIC	12	1024	AN1095 <sup>1</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	-	2	4	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.24	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP), SSOP (SS)
dsPIC33FJ32GP202	R	21	dsPIC	32	2048	AN1095 <sup>1</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	-	2	4	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.56	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)
dsPIC33FJ32GP302	R	21	dsPIC	32	4096	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	2	4	4	-	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$2.76	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)
dsPIC33FJ64GP202	R	21	dsPIC	64	8192	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	-	✓	-	✓	\$3.12	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)
dsPIC33FJ64GP802*	R	21	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.42	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)
dsPIC33FJ128GP202	R	21	dsPIC	128	8192	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	-	✓	✓	✓	\$3.44	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)
dsPIC33FJ128GP802	R	21	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	10 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.72	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)
dsPIC33FJ16GP304	R	35	dsPIC	16	2048	AN1095 <sup>1</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	-	2	4	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.58	BOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ32GP204*	R	35	dsPIC	32	2048	AN1095 <sup>1</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	-	2	4	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.66	PBOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ32GP304	R	35	dsPIC	32	4096	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$3.01	PBOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ64GP204	R	35	dsPIC	64	8192	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	-	✓	-	✓	\$3.29	PBOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ128GP204	R	35	dsPIC	128	8192	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	-	✓	✓	✓	\$3.58	PBOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ64GP804	R	35	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.65	PBOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ128GP804*	R	35	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	13 ch	-	2	4	4	1	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.96	PBOR, POR, WDT	QFN (ML), TOFP (PT)
dsPIC33FJ64GP206A	R	53	dsPIC	64	8192	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch	-	-	8	8	1	9	2 UART, 2 SPI, 1 PC	-	-	-	-	\$3.39	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ64GP306A	R	53	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	-	-	-	-	\$3.53	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ128GP206A	R	53	dsPIC	128	8192	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch	-	-	8	8	1	9	2 UART, 2 SPI, 1 PC	-	-	-	-	\$3.63	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ128GP306A	R	53	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	-	-	-	-	\$3.79	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ64GP706A	R	53	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.14	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ256GP506A*	R	53	dsPIC	256	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.20	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ128GP706A*	R	53	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.40	PBOR, POR, WDT	QFN (MR), TOFP (PT)
dsPIC33FJ64GP708A	R	69	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.44	PBOR, POR, WDT	TQFP (PT)
dsPIC33FJ128GP708A	R	69	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.69	PBOR, POR, WDT	TQFP (PT)
dsPIC33FJ64GP310A	R	85	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	32 ch	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	-	-	-	-	\$3.99	PBOR, POR, WDT	TQFP (PT, PF)
dsPIC33FJ128GP310A	R	85	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	32 ch	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	-	-	-	-	\$4.26	PBOR, POR, WDT	TQFP (PT, PF)
dsPIC33FJ64GP710A	R	85	dsPIC	64	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	32 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.61	PBOR, POR, WDT	TQFP (PT, PF)
dsPIC33FJ256GP510A*	R	85	dsPIC	256	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	32 ch	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.66	PBOR, POR, WDT	TQFP (PT, PF)
dsPIC33FJ128GP710A*	R	85	dsPIC	128	16384	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	32 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.86	PBOR, POR, WDT	TQFP (PT, PF)
dsPIC33FJ256GP710A*	R	85	dsPIC	256	30720	AN1095 <sup>1</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	32 ch 2 ADC	-	-	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$5.32	PBOR, POR, WDT	TQFP (PT, PF)

\*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

1 - Pricing subject to change: please contact your Microchip representative for most current pricing.

## dsPIC33 DSC Motor Control and Power Conversion Family

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory				Operating Speed			Analog			Output Compare/PWM	Input Capture	Motor Control PWM Ch	QEI	16-bit Timer <sup>2</sup>	Communication				5- to Pricing <sup>1</sup>	Monitors System Mgmt. Features	Packages (Designator)		
				Program KB	Data RAM (B)	EEPROM	DMA #Ch	Voltage Range	Maximum Speed MPS	Internal Oscillator	ADC 10/12-bit 1100/500 Isps	DAC	Comparators						Digital Communication	CAN	PMP	RTCCCR				PPS	
dsPIC33FJ12MC201	R	15	dsPIC*	12	1024	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	4 ch	-	-	2	4	8	1	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.09	PBOP, POR, WDT	PDIP (P), SOIC (SO), SSOP (SS)	20-Pin
dsPIC33FJ32MC202	R	21	dsPIC	12	1024	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	1	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.31	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP), SSOP (SS)	28-Pin
dsPIC33FJ32MC202*	R	21	dsPIC	32	2048	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	1	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.63	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	
dsPIC33FJ32MC302	R	21	dsPIC	32	4096	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$2.87	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	
dsPIC33FJ64MC202	R	21	dsPIC	64	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$3.29	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	
dsPIC33FJ64MC802*	R	21	dsPIC	64	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.50	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	
dsPIC33FJ128MC202	R	21	dsPIC	128	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$3.57	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	28-Pin
dsPIC33FJ128MC802*	R	21	dsPIC	128	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.82	PBOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	
dsPIC33FJ16MC304*	R	35	dsPIC	16	2048	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	-	-	2	4	6+2	1	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.65	BOR, POR, WDT	QFN (ML), TOFP (PT)	44-Pin
dsPIC33FJ32MC204*	R	35	dsPIC	32	2048	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	-	-	2	4	6+2	1	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.76	PBOR, POR, WDT	QFN (ML), TOFP (PT)	
dsPIC33FJ32MC304	R	35	dsPIC	32	4096	AN1095 <sup>3)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$3.12	PBOR, POR, WDT	QFN (ML), TOFP (PT)	
dsPIC33FJ64MC204	R	35	dsPIC	64	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$3.39	PBOR, POR, WDT	QFN (ML), TOFP (PT)	
dsPIC33FJ128MC204	R	35	dsPIC	128	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	-	-	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	-	-	-	✓	\$3.68	PBOR, POR, WDT	QFN (ML), TOFP (PT)	44-Pin
dsPIC33FJ64MC804*	R	35	dsPIC	64	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	2 x 16-bit @ 100 (ksps)	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$3.89	PBOR, POR, WDT	QFN (ML), TOFP (PT)		
dsPIC33FJ128MC804*	R	35	dsPIC	128	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	9 ch	2 x 16-bit @ 100 (ksps)	2	4	6+2	2	5	2 UART, 2 SPI, 1 PC	1	✓	✓	✓	\$4.23	PBOR, POR, WDT	QFN (ML), TOFP (PT)	64-Pin	
dsPIC33FJ64MC506A*	R	53	dsPIC	64	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$3.84	PBOR, POR, WDT		QFN (MR), TOFP (PT)
dsPIC33FJ128MC506A*	R	53	dsPIC	128	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.10	PBOR, POR, WDT		QFN (MR), TOFP (PT)
dsPIC33FJ64MC706A	R	53	dsPIC	64	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch 2 ADC	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.21	PBOR, POR, WDT		QFN (MR), TOFP (PT)
dsPIC33FJ128MC706A*	R	53	dsPIC	128	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch 2 ADC	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.49	PBOR, POR, WDT	QFN (MR), TOFP (PT)	80-Pin
dsPIC33FJ64MC508A	R	69	dsPIC	64	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.14	PBOR, POR, WDT	TOFP (PT)	
dsPIC33FJ128MC708A	R	69	dsPIC	128	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch 2 ADC	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$5.00	PBOR, POR, WDT	TOFP (PT)	100-Pin
dsPIC33FJ64MC510A	R	85	dsPIC	64	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.33	PBOR, POR, WDT	TOFP (PT, PF)	
dsPIC33FJ128MC510A	R	85	dsPIC	128	8192	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.59	PBOR, POR, WDT	TOFP (PT, PF)	
dsPIC33FJ64MC710A	R	85	dsPIC	64	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch 2 ADC	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$4.91	PBOR, POR, WDT	TOFP (PT, PF)	
dsPIC33FJ256MC510A	R	85	dsPIC	256	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	1	-	-	-	\$4.97	PBOR, POR, WDT	TOFP (PT, PF)	100-Pin
dsPIC33FJ128MC710A*	R	85	dsPIC	128	16384	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch 2 ADC	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$5.18	PBOR, POR, WDT	TOFP (PT, PF)	
dsPIC33FJ256MC710A*	R	85	dsPIC	256	30720	AN1095 <sup>3)</sup>	8	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch 2 ADC	-	-	8	8	8	1	9	2 UART, 2 SPI, 2 PC	2	-	-	-	\$5.67	PBOR, POR, WDT	TOFP (PT, PF)	

\*Parts available with High Temperature options (150°C).

Note 1: See Application Note "AN1095 - Emulating Data EEPROM".

2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.

1 - Pricing subject to change; please contact your Microchip representative for most current pricing.



dsPIC33 DSC SMPS and Digital Power Conversion Family

Product	Released (R) Not Released (NR)	I/O Pins	Core	Memory				Operating Speed		Analog			Output Compare/PWM	Input Capture	Power Supply/PWM Ch <sup>(1)</sup>	CEI	16-bit Timer <sup>(2)</sup>	Communication					5- <sup>eu</sup> Pricing <sup>(1)</sup>	Monitors System Mgmt. Features	Packages (Designator)			
				Program KB	Data RAM (B)	EEPROM	DMA Ch	Voltage Range	Maximum Speed MIPS	Internal Oscillator	ADC 10-bit /2000/4000 Ksps	DAC						Comparators	Digital Communication	CAN	PMP	RTCC				PPS		
18-Pin	dsPIC33FJ06GS101	R	13	dsPIC*	6	256	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	1	-	4	-	2	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$1.96	BOR, POR, WDT	SOIC (SO)	18-Pin
28-Pin	dsPIC33FJ06GS102	R	21	dsPIC	6	256	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	6 ch	-	-	1	-	4	-	2	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.20	BOR, POR, WDT	QFN (MM), SOIC(SO), SPDIP (SP)	28-Pin
	dsPIC33FJ16GS402	R	21	dsPIC	16	2048	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	8 ch	-	-	2	2	6	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.52	BOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	
44-Pin	dsPIC33FJ16GS502	R	21	dsPIC	16	2048	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	8 ch, 2 ADC*	4 x 10-bit	4	2	2	8	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$3.04	BOR, POR, WDT	QFN (MM), SOIC (SO), SPDIP (SP)	44-Pin
	dsPIC33FJ16GS404	R	35	dsPIC	16	2048	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	8 ch	-	-	2	2	6	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$2.77	BOR, POR, WDT	QFN (ML), TOFP (PT)	
64-Pin	dsPIC33FJ16GS504	R	35	dsPIC	16	2048	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	12 ch, 2 ADC*	4 x 10-bit	4	2	2	8	-	3	1 UART, 1 SPI, 1 PC	-	-	-	✓	\$3.42	BOR, POR, WDT	QFN (ML), TOFP (PT)	64-Pin
	dsPIC33FJ32GS406	R	58	dsPIC	32	4096	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	4	4	12	1	5	2 UART, 2 SPI, 2 PC	-	-	-	-	Call for Pricing	BOR, POR, WDT	QFN (MR), TOFP (PT)	
	dsPIC33FJ64GS406	R	58	dsPIC	64	8192	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch	-	-	4	4	12	1	5	2 UART, 2 SPI, 2 PC	-	-	-	-	Call for Pricing	BOR, POR, WDT	QFN (MR), TOFP (PT)	
	dsPIC33FJ32GS606	R	58	dsPIC	32	4096	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch, 2 ADC*	4 x 10-bit	4	4	4	12	2	5	2 UART, 2 SPI, 2 PC	-	-	-	-	Call for Pricing	BOR, POR, WDT	QFN (MR), TOFP (PT)	
80-Pin	dsPIC33FJ64GS606	R	58	dsPIC	64	9216	AN1095 <sup>(1)</sup>	4	3V-3.6V	40	7.37 MHz, 32 kHz	16 ch, 2 ADC*	4 x 10-bit	4	4	4	12	2	5	2 UART, 2 SPI, 2 PC	1	-	-	-	Call for Pricing	BOR, POR, WDT	QFN (MR), TOFP (PT)	80-Pin
	dsPIC33FJ32GS608	R	74	dsPIC	32	4096	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch, 2 ADC*	4 x 10-bit	4	4	4	16	2	5	2 UART, 2 SPI, 2 PC	-	-	-	-	Call for Pricing	BOR, POR, WDT	TOFP (PT)	
100-Pin	dsPIC33FJ64GS608	R	74	dsPIC	64	9216	AN1095 <sup>(1)</sup>	4	3V-3.6V	40	7.37 MHz, 32 kHz	18 ch, 2 ADC*	4 x 10-bit	4	4	4	16	2	5	2 UART, 2 SPI, 2 PC	1	-	-	-	Call for Pricing	BOR, POR, WDT	TOFP (PT)	100-Pin
	dsPIC33FJ32GS610	R	85	dsPIC	32	4096	AN1095 <sup>(1)</sup>	-	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch, 2 ADC*	4 x 10-bit	4	4	4	18	2	5	2 UART, 2 SPI, 2 PC	-	-	-	-	Call for Pricing	BOR, POR, WDT	TOFP (PF, PT)	
	dsPIC33FJ64GS610	R	85	dsPIC	64	9216	AN1095 <sup>(1)</sup>	4	3V-3.6V	40	7.37 MHz, 32 kHz	24 ch, 2 ADC*	4 x 10-bit	4	4	4	18	2	5	2 UART, 2 SPI, 2 PC	1	-	-	-	Call for Pricing	BOR, POR, WDT	TOFP (PF, PT)	

\*Parts available with High Temperature options (150°C).  
 Note 1: See Application Note "AN1095 - Emulating Data EEPROM".  
 2: Two 16-bit timers can be concatenated to form a 32-bit timer.

Products sorted by pin count followed by pricing.  
 1 - Pricing subject to change: please contact your Microchip representative for most current pricing.

## Thermal Management – Temperature Sensors

Product	Typical Accuracy (°C)	Max. Accuracy @ 25°C (°C)	Max. Temperature Range (°C)	Vcc Range (V)	Max. Op Current (µA)	Features	Packages
MCP9501/2/3/4	±0.5	±3	-55 to +125	+2.7 to +5.5	40	Cross to MAX6501/2/3/4, Open-drain and push-pull output options	SOT-23A
MCP9509/10	±0.5	NS	-40 to +125	+2.7 to +5.5	50	Resistor-programmable temperature switch	SOT-23A
MCP9700/01	±1	±4	-40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC	SOT-23A, TO-92, SC70
MCP9700/01A	±1	±2	-40 to +125	+2.3 to +5.5	12	Linear Active Thermistor® IC	SOT-23A, TO-92, SC70
TC1046	±0.5	±2	-40 to +125	+2.7 to +4.4	60	High precision temperature-to-voltage converter, 6.25 mV/°C	SOT-23A
TC1047A	±0.5	±2	-40 to +125	+2.5 to +5.5	60	High precision temperature-to-voltage converter, 10 mV/°C	SOT-23A
MCP9800/1/2/3	±0.5	±1	-55 to +125	+2.7 to +5.5	400	SMbus/PC™ compatible interface, 0.0625°C to 0.5°C adj. resolution, power-saving one-shot temperature measurement	SOIC, MSOP, SOT-23A
MCP9804	±0.25	±1	-40 to +125	+2.7 to +5.5	400	User programmable temperature limits with alert output, 1°C temp. accuracy from -40°C to +125°C	MSOP, DFN
MCP9843	±0.5	±1	-20 to +125	+3.0 to +3.6	400	JEDEC compatible register set, SMbus/PC™ compatible interface, programmable, shut-down modes and EVENT output	TSSOP, DFN
MCP98243	±1	±3	-40 to +125	+3.0 to +3.6	500	Serial output temperature sensor with integrated EEPROM	TSSOP, DFN, TDFN
TCN75A	±0.5	±2	-40 to +125	+2.7 to +5.5	500	SMbus/PC™ compatible interface, power-saving one-shot temperature measurement, multi-drop capability, 0.0625°C to 0.5°C adjustable temperature resolution	SOIC, MSOP

## Power Management – Switching Regulators/PWM Controllers

Product	Input Voltage Range (V)	Output Voltage (V)	Operating Temperature Range (°C)	Control Scheme	Switching Frequency (kHz)	Typical Active Current (µA)	Output Current (mA)	Features	Packages
MCP1630V/1631V	3.0 to 5.5	-	-40 to +125	PWM	1000/2000	2800/3700	Ext	Current/Voltage mode PWM controller, UVLO, Short Circuit and Over-temperature Protection, Integrated MOSFET driver	MSOP, SSOP, TSSOP, DFN
MCP1631HV/VHV	3.5 to 16	-	-40 to +125	PWM	2000	3700	Ext	Current/Voltage mode PWM controller with integrated 16V LDO, UVLO, Integrated error, current and voltage sense amplifier, overvoltage comparator and MOSFET driver	SSOP, TSSOP
TC1303/04/13	2.7 to 5.5	DC/DC: 0.8 to 4.5 LDO: 1.5 to 3.3	-40 to +85	PFMPWM	2000	65/600	DC/DC: 500 mA LDO: 300 mA	Synchronous Buck Regulator, LDO w/Power Good with PFMPWM auto-switching, Power Good output or Power Sequencing	MSOP, DFN
MCP1602/3	2.7 to 5.5	0.8 to 4.5 /4.0	-40 to +85	PFMPWM	2000	35/45	500	Synchronous Buck Regulator PFM, PWM auto-switching, UVLO, soft start, Power Good indicator, Over-temperature/current protection	MSOP, DFN, TSOT
MCP1640/B/C/D	0.65 to 6	2.0 to 5.5	-40 to +85	PWM or PWM/PFM	500	19	350	Integrated synchronous boost regulator, -65V start-up voltage, soft-start, True load disconnect or input-to-output bypass option	SOT-23, DFN
MCP1650/1/2/3	2.7 to 5.5	2.5 to ext. tx limited	-40 to +125	Constant Frequency	750	120	560/440	Step-up DC/DC Controller with shutdown control, low battery detect, Power Good indicator, UVLO, soft start	MSOP

## Power Management – Linear Regulators

Product	Max. Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Typical Active Current (µA)	Typical Dropout Voltage @ Max. I <sub>out</sub> (mV)	Typical Output Voltage Accuracy (%)	Features	Packages
TC1016/17	6	1.8 to 4.0	80/150	53	150/285	±0.5	Shutdown	SOT-23A, SC70
TC2014/5, TC2185	6	1.8 to 5.0	50/100/150	55	45/90/140	±0.4	Shutdown, Reference bypass input	SOT-23A
TC2054/5, TC2186	6	1.8 to 5.0	50/100/150	55	45/90/140	±0.4	Shutdown, Error output	SOT-23A
MCP1790/1	30	3.0, 3.3, 5.0	70	70	500	±0.2	Load dump, Shutdown, PowerGood	SOT-223, DPAK
MCP1801/2	10	0.9 to 6.0	150/300	25	250/800	±0.4	Shutdown, High PSRR	SOT-23A
MCP1804	28	1.8 to 18	150	50	300	±0.5	Shutdown, High PSRR	SOT-23, SOT-89, SOT-223
MCP1700	6	1.2 to 5.0	250	1.6	300	±0.4	Very low I <sub>q</sub>	SOT-23A, SOT-89, TO-92
MCP1702/3	13.2/16	1.2 to 5.0	250	2	330/625	±0.4	Very low I <sub>q</sub>	DFN, TO-92, SOT-23A, SOT-89, SOT-223
MCP1824/5/6/7	6	0.8 to 5.0	300/500/1000/1500	120/120/140/140	200/210/300/330	±0.5	Fixed and Adjustable output, Shutdown, Power Good	SOT-23, SOT-223, TO-220, DPAK
MCP1824/5/6/7/5	6	0.8 to 5.0	300/500/1000/1500	120/120/140/140	200/210/300/330	±0.5	3-pin high current LDOs	SOIC, DFN, SOT-223, TO-220, DPAK
MCP1725/6/7	6	0.8 to 5.0	500/1000/1500	120/140/140	210/300/330	±0.5	Shutdown, <i>C<sub>DELAY</sub></i> , Power Good	SOIC, DFN
TC1301A/B	6	1.5 to 3.3	LDO1: 300 LDO2: 150	103/114	LDO1: 104 LDO2: 150	±0.5	Dual LDO plus Reset output, Shutdown, Reference bypass, Voltage detect	MSOP, DFN
TC1302A/B	6	1.5 to 3.3	LDO1: 300 LDO2: 150	103/114	LDO1: 104 LDO2: 150	±0.5	Dual LDO, Shutdown, reference bypass, Voltage detect	MSOP, DFN

Products sorted by pin count followed by pricing.

1 - Pricing subject to change; please contact your Microchip representative for most current pricing.

## Power Management – Charge Pump DC-to-DC Converters

Product	Input Voltage Range (V)	Output Voltage (V)	Operating Temp Range (°C)	Max. Input Current (µA)	Typical Output Current (mA)	Features	Packages
TC1044S	1.5 to 12	-V <sub>IN</sub> or 2*V <sub>IN</sub>	-40 to +85	160	20	85 kHz oscillator Boost mode	PDIP, SOIC
TC7660	1.5 to 10	-V <sub>IN</sub> or 2*V <sub>IN</sub>	-40 to +85	180	20	10 kHz oscillator	PDIP, SOIC
TC7660H	1.5 to 10	-V <sub>IN</sub> or 2*V <sub>IN</sub>	-40 to +85	1000	20	120 kHz oscillator	PDIP, SOIC
TC7660S	1.5 to 12	-V <sub>IN</sub> or 2*V <sub>IN</sub>	-40 to +85	160	20	45 kHz oscillator Boost mode	PDIP, SOIC
TC7662B	1.5 to 15	-V <sub>IN</sub> or 2*V <sub>IN</sub>	-40 to +85	180	20	35 kHz oscillator Boost mode	PDIP, SOIC
TC7662A	3.0 to 18	-V <sub>IN</sub> or 2*V <sub>IN</sub>	-40 to +85	200	40	12 kHz oscillator	PDIP, SOIC
MCP1256	1.8 to 3.6	3.3	-40 to +85	100	100	Power Good Sleep mode	MSOP, DFN
MCP1257	1.8 to 3.6	3.3	-40 to +85	100	100	Sleep mode low battery indication	MSOP, DFN
MCP1258	1.8 to 3.6	3.3	-40 to +85	100	100	Low battery indication input/output bypass 1	MSOP, DFN

## Power Management – CPU/System Supervisors

Product	Description	Operating Temp Range (°C)	Features	Packages
MCP111(1/2) TCS1(1/2/3/4)	System Voltage Detectors (No Reset Delay)	-40 to +125 -40 to +85	Wide V <sub>CC</sub> Input Range, Wide Detection Range (Custom Options Available), Low Current, CMOS/Push-Pull Active Low Reset Options	3/SOT-23A, 3/SOT-89, 3/TO-92, 5/SOT-23, 3/SC-70
MCP809, MCP100, MCP130, MCP120 MCP130X, TC1270A and more	System Voltage Supervisors (Available Reset Delays)	-40 to +125 -40 to +85	Wide Detection Range (Custom Options Available), Low Current, Push-Pull/Open Drain, Active High/Low, Watchdog, Manual Reset, Dual Output Options, Multiple Reset Delay Options	3/SOT-23, 3/TO-92, 3/SC-70, 8/SOIC 150mil, 5/SOT-23, 4/SOT-143

## Power Management – Power MOSFET Drivers

Product	Configuration	Operating Temp Range (°C)	Peak Output Current (A)	Output Resistance (Max.@ 25°C)	Max Supply Voltage (V)	Input/Output Delay (ns)	Packages
MCP1401/02 Single	Inverting/Non-inverting	-40 to +125	0.5	18/16	18	40/40	SOT-23
MCP1415/16 Single	Inverting/Non-inverting	-40 to +125	1.5	7.5/5.5	18	50/55	SOT-23
TC4467/8/9 Quad	Inverting/Non-inverting	-40 to +85	1.2	15/15	18	40/40	PDIP, SOIC
TC4426A/27A/28A Dual	Inverting/Non-inverting	-40 to +125	1.5	9/9	18	30/30	PDIP, SOIC, DFN
TC4423A/24A/25A Dual	Inverting/Non-inverting	-40 to +125	3	3 (typ.)/4 (typ.)	18	40 (typ.)/40 (typ.)	PDIP, SOIC, DFN
MCP14E3/E4/E5 Dual	Inverting/Non-inverting	-40 to +125	4	3.5/3.0	18	55/55	PDIP, SOIC, DFN
MCP1406/07 Single	Inverting/Non-inverting	-40 to +125	6	1.8/2.0 (typ.)	18	30/30	TO-220, PDIP, DFN, SOIC
TC4420/29	Inverting/Non-inverting	-40 to +125	6	2.8/2.5	18	55/55	TO-220, PDIP, DFN, SOIC
TC4421A/22A Single	Inverting/Non-inverting	-40 to +125	9	1.25 (typ.)/1.5	18	38/42	PDIP, SOIC, TO-220, DFN
TC4451/52 Single	Inverting/Non-inverting	-40 to +125	12	0.6 (typ.)/1.5	18	15/15	SOIC, PDIP, DFN, TO-220, DPAK
TC4431/32 Single	Inverting/Non-inverting	-40 to +85	1.5	10/10	30	62/78	PDIP, SOIC

## Power Management – Synchronous Buck High-Side Driver

Product	Configuration	Operating Temp Range (°C)	Peak Output Current (A)	Output Resistance (Max.@ 25°C)	Max Supply Voltage (V)	Input/Output Delay (ns)	Packages
MCP14700/14628	Dual Input/Single Input	-40 to +85	2	2.5/2.5	5 (V <sub>CC</sub> ), 36 (Boot Pin)	18/20	SOIC, DFN

## Power Management – Battery Chargers

Product	Mode	Cell Type	# of Cells	V <sub>CC</sub> Range (V)	Cell Voltage (V)	Max. Charging Current (mA)	Max. Voltage Regulation (%)	In/Ext FET	Features	Packages
MCP7311/314/23	Linear	Li-ion/Li-Polymer and LiFePO4	1	4 to 16	3.6, 4.1, 4.2, 4.35, 4.4	1100	±0.5	Int	6.5/5.8V Overvoltage Protection, UVLO, Thermal regulation	10-pin 3x3 DFN
MCP7321/323	Linear	Li-ion/Li-Polymer and LiFePO4	2	4 to 16	7.2, 8.2, 8.4, 8.7, 8.8	1100	±0.6	Int	13V Overvoltage Protection	10-pin 3x3 DFN
MCP7383/12	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	500	±0.75	Int	UVLO, Thermal regulation, Programmable charge current, tri-state or open-drain STAT pin	8-pin 2x3 DFN, 5-pin SOT-23
MCP7383/78	Linear	Li-Ion/Li-Polymer	1	3.7 to 6.0	4.2, 4.35, 4.4, 4.5	1000	±0.75	Int	Dual Input (USB/DC) auto-switching, Thermistor Input, Power Good output or Timer enable input	10-pin MSOP, 10-pin 3x3 DFN
MCP7387/1	Linear	Li-Ion/Li-Polymer	1	3.75 to 6.0	4.2, 4.35, 4.4, 4.5	1500 (A/C Adapter) 500 (USB)	±0.5	Int	Simultaneous charging of load and battery, load-dependent charging, multiple programmable charge currents	20-pin SSOP, 20-pin 4x4 QFN

## Linear – Op Amps

Product	# per Package	GBWP (MHz)	I <sub>o</sub> Typical (µA)	V <sub>os</sub> Max (mV)	Operating Voltage (V)	Packages	Product	# per Package	GBWP (MHz)	I <sub>o</sub> Typical (µA)	V <sub>os</sub> Max (mV)	Operating Voltage (V)	Packages
MCP6612/3/5	1/2/1/2	60	6000	8	2.5 to 5.5	SOIC, MSOP, DFN	MCP6071/2/4	1/2/4	1.2	110	0.15	1.8 to 6.0	SOIC, TSSOP, DFN
MCP6512/5	1/2/2	50	6000	0.2	2.5 to 5.5	SOIC, MSOP, DFN	MCP6012	1/2	1.2	135	4.5	3.5 to 16	SOIC, TDFN
MCP6312/3/5	1/2/1/2	24	2500	8	2.5 to 5.5	SOIC, MSOP, DFN	MCP6001/2/4	1/2/4	1	100	4.5	1.8 to 6.0	PDIP, SOIC, MSOP, TSSOP, TDFN, SOT, SC70
MCP6212/5	1/2/2	20	2500	0.2	2.5 to 5.5	SOIC, MSOP, DFN	MCP6401/2/4	1/2/4	1	45	4.5	1.8 to 6.0	SOIC, TSSOP, TDFN, SOT, SC70
MCP60212/3/4	1/2/1/4	10	1000	0.5	2.5 to 5.5	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6101/2/4	1/2/4	1	85	5	1.8 to 6.0	SOIC, MSOP, TSSOP, SOT, SC70
MCP62912/3/4/5	1/2/1/4/2	10	1000	3	2.4 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6061/2/4	1/2/4	0.73	60	0.15	1.8 to 6.0	SOIC, TSSOP, DFN
MCP6812/4	1/2/4	10	850	4	2.4 to 6.0	SOIC, MSOP, TSSOP, SOT	MCP6241/2/4	1/2/4	0.55	50	5	1.8 to 5.5	PDIP, SOIC, MSOP, TSSOP, TDFN, SOT, SC70
MCP62812/3/4/5	1/2/1/4/2	5	445	3	2.2 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT	MCP6051/2/4	1/2/4	0.385	30	0.15	1.8 to 6.0	SOIC, TSSOP, DFN
MCP6286	1	3.5	540	1.5	2.2 to 5.5	SOT	MCP6231/2/4	1/2/4	0.3	20	5	1.8 to 6.0	PDIP, SOIC, MSOP, TSSOP, TDFN, SOT, SC70
MCP6012/3/4	1/2/1/4	2.8	230	2	2.7 to 6.0	PDIP, SOIC, TSSOP, SOT	MCP6167/8/9	1/2/1/4	0.19	19	0.15	2.3 to 5.5	PDIP, SOIC, MSOP, TSSOP
MCP6812/4	1/2/4	2.8	200	3	2.7 to 6.0	SOIC, MSOP, TSSOP, SOT	MCP6067/8/9	1/2/1/4	0.155	19	0.25	2.5 to 6.0	PDIP, SOIC, TSSOP, SOT
MCP62712/3/4/5	1/2/1/4/2	2	170	3	2.0 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT	MCP61412/3/4	1/2/1/4	0.1	0.6	3	1.4 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT
MCP68171/2/4	1/2/4	2	150	4	2.0 to 6.0	SOIC, MSOP, TSSOP, SOT	MCP60412/3/4	1/2/1/4	0.014	0.6	3	1.4 to 6.0	PDIP, SOIC, MSOP, TSSOP, SOT
MCP6W012/3	1/2/1	1.3	300	0.002	1.8 to 5.5	SOIC, DFN, TDFN	MCP60312/3/4	1/2/1/4	0.01	0.9	0.15	1.8 to 5.5	SOIC, MSOP, TSSOP, DFN, SOT
MCP6V067/8	1/2/1	1.3	300	0.003	1.8 to 5.5	SOIC, DFN, TDFN	MCP6441	1	0.009	0.45	4.5	1.4 to 6.0	SOT, SC70

## Linear – Comparators

Product	# per Package	Typical Propagation Delay (µs)	I <sub>o</sub> Typical (µA)	V <sub>os</sub> Max (mV)	Operating Voltage (V)	Temperature Range (°C)	Features	Packages
MCP65412/3/4	1/2/1/4	4	1	5	1.6 to 5.5	-40 to +125	Push-Pull, Rail-to-Rail Input/Output	PDIP, SOIC, MSOP, TSSOP, SOT, SC70
MCP65467/8/9	1/2/1/4	4	1	5	1.6 to 5.5	-40 to +125	Open-drain, 9V, Rail-to-Rail Input/Output	PDIP, SOIC, MSOP, TSSOP, SOT, SC70
MCP65612/4	1/2/4	0.047	100	10	1.8 to 5.5	-40 to +125	Push-Pull, Rail-to-Rail Input/Output	SOIC, MSOP, TSSOP, SOT, SC70
MCP65667/9	1/2/4	0.047	100	10	1.8 to 5.5	-40 to +125	Open-Drain, Rail-to-Rail Input/Output	SOIC, MSOP, TSSOP, SOT, SC70

## Mixed Signal – Successive Approximation Register (SAR) Analog-to-Digital Converters

Product	Resolution (bits)	Maximum Sampling Rate (ksamples/sec)	# of Input Channels	Input Type	Interface	Max. Supply Current (µA)	Temperature Range (°C)	Packages
MCP3021/3221	10/12	22	1	Single-ended	PC™	250	-40 to +125	SOT-23A
MCP30012/4/8	10	200	1/2/4/8	Single-ended	SPI	500-550	-40 to +85	PDIP, SOIC, MSOP, TSSOP
MCP32012/4/8	12	100	1/2/4/8	Single-ended	SPI	400-550	-40 to +85	PDIP, SOIC, MSOP, TSSOP
MCP33012/4	13	100	1/2/4	Differential	SPI	450	-40 to +85	PDIP, SOIC, MSOP, TSSOP

## Mixed Signal – Digital Potentiometers

Product	# of Taps	Memory	Channels	Interface	Resistance (kΩ)	Temperature Range (°C)	Packages	Product	# of Taps	Memory	Channels	Interface	Resistance (kΩ)	Temperature Range (°C)	Packages
MCP4011/12/13/14	64	Volatile	1	Up/Down	2.1, 5, 10, 50	-40 to +125	DFN, SOT-23	MCP4341/42	129	Nonvolatile	4	PC™	5, 10, 50, 100	-40 to +125	TSSOP, DFN
MCP4017/18/19	128	Volatile	1	PC™	5, 10, 50, 100	-40 to +125	SC-70	MCP4361/62	257	Nonvolatile	4	PC™	5, 10, 50, 100	-40 to +125	TSSOP, DFN
MCP40017/18/19	128	Volatile	1	PC™	5, 10, 50, 100	-40 to +125	SC-70	MCP4331/32	129	Volatile	4	PC™	5, 10, 50, 100	-40 to +125	TSSOP, DFN
MCP40212/22/23/24	64	Nonvolatile	1	Up/Down	2.1, 5, 10, 50	-40 to +125	DFN, SOT-23	MCP4351/52	257	Volatile	4	PC™	5, 10, 50, 100	-40 to +125	TSSOP, DFN
MCP4141/42	128	Nonvolatile	1	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4531/32	128	Volatile	1	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4241/42	128	Nonvolatile	2	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4631/32	128	Volatile	2	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4131/32	128	Volatile	1	SPI	5, 10, 50, 100	-40 to +125	OFN, DFN	MCP4541/42	128	Nonvolatile	1	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4231/32	128	Volatile	2	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4641/42	128	Nonvolatile	2	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4151/52	256	Volatile	1	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4551/52	256	Volatile	1	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4161/62	256	Nonvolatile	1	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4651/52	256	Volatile	2	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4251/52	256	Volatile	2	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4561/62	256	Nonvolatile	1	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN
MCP4261/62	256	Nonvolatile	2	SPI	5, 10, 50, 100	-40 to +125	MSOP, OFN, DFN	MCP4661/62	256	Nonvolatile	2	PC™	5, 10, 50, 100	-40 to +125	MSOP, DFN

### Mixed Signal – Delta Sigma Analog-to-Digital Converters

Product	Resolution (bits)	Maximum Sampling Rate (samples/sec)	# of Input Channels	Interface	Typical Supply Current (µA)	Temperature Range (°C)	Features	Packages
MCP3421/2/3/4	18 to 12	4 to 240	1/2/2/4 Diff	PC™	155	-40 to +125	PGA, V <sub>REF</sub>	SOT, DFN, MSOP, SOIC, TSSOP
MCP3425/6/7/8	16 to 12	15 to 240	1/2/2/4 Diff	PC™	155	-40 to +125	PGA, V <sub>REF</sub>	SOT, DFN, MSOP, SOIC, TSSOP
MCP3550/1/3	22	13/1/460	1 Diff	SPI	120	-40 to +125	50 & 60 Hz Rejection	SOIC, MSOP

### Mixed Signal – Energy Measurement ICs

Product	Dynamic Range	Typical Accuracy	Gain	Output Type	Typical Supply Current	Supply Voltage Range (V)	Temperature Range (°C)	Packages
MCP3901	24-bit resolution	-	up to 32	SPI	3.6 mA	4.5 to 5.5	-40 to +125	SSOP, OFN
MCP3905A/D6A	500:1 / 1000:1	0.1%	up to 32	Active power pulse	3.9 mA	4.5 to 5.5	-40 to +85	SSOP
MCP3909	1000:1	0.1%	1, 2, 8, 16	SPI	3.9 mA	4.5 to 5.5	-40 to +85	SSOP

### Mixed Signal – Digital-to-Analog Converters

Product	Resolution (Bits)	DAC Channels	Interface	Voltage Reference	Output Settling Time (µs)	DNL (LSB)	Typical Operating Current (µA)	Temperature Range (°C)	Packages
MCP4725	12	1	PC™	V <sub>DD</sub>	6	0.75	175	-40 to +125	SOT-23
MCP4728	12	4	PC™	Int	6	0.75	250	-40 to +125	MSOP
MCP4801/1/1/1/21	8/10/12	1	SPI	Int	4.5	0.5/0.5/0.75	330	-40 to +125	2x3 DFN, MSOP, PDIP, SOIC
MCP4802/1/2/22	8/10/12	2	SPI	Int	4.5	0.5/0.5/0.75	415	-40 to +125	MSOP, PDIP, SOIC
MCP4901/1/1/1/21	8/10/12	1	SPI	Ext	4.5	0.5/0.5/0.75	175	-40 to +125	2x3 DFN, MSOP, PDIP, SOIC
MCP4902/1/2/22	8/10/12	2	SPI	Ext	4.5	0.5/0.5/0.75	350	-40 to +125	PDIP, SOIC, TSSOP
TC1320/1	8/10	1	SMbus	Ext	10	0.8/2	350	-40 to +85	MSOP, SOIC

### Interface – mTouch™ AR1000 Resistive Touch Screen Controllers

Product	Type	Communication	Touch Screens Supported	A/D	Resolution	Power	Points per second	Baud Rate	Operating Temperature Range (°C)	Static Protection	5 ku Pricing <sup>1</sup>	Special Features	Package
AR1010	Analog Resistive	UART	All Manufacturers 4, 5 and 8 wire	Internal 10-bit Ratiometric	1024 X 1024	3.3V DC ±5% 5.5V DC ±5%	140 pps	Standard 9600	-40 to +85	Per schematic	\$1.39	Controller driven calibration & Universal for all touch screens	20-pin SSOP (SS), SOIC (SO), QFN (ML)
AR1020	Analog Resistive	SPI, PC™	All Manufacturers 4, 5 and 8 wire	Internal 10-bit Ratiometric	1024 X 1024	3.3V DC ±5% 5.5V DC ±5%	140 pps	Standard 9600	-40 to +85	Per schematic	\$1.39	Controller driven calibration & Universal for all touch screens	20-pin SSOP (SS), SOIC (SO), QFN (ML)

### Interface – Controller Area Network (CAN), Infrared, LIN Transceivers, Ethernet, Serial Peripherals, USB

Product	Description	Operating Temperature Range (°C)	Other Features	Packages
MCP2515	Stand-Alone CAN Controller with SPI Interface	-40 to +125	3 TX Buffers, 2 RX Buffers, 6 Filters, 2 Masks, Interrupt output, MCP2510 upgrade	PDIP, SOIC, TSSOP
MCP2551	CAN (Controller Area Network), High-Speed CAN Transceiver	-40 to +125	1 Mbps max. CAN bus speed, ISO11898 compatible, Industry standard pinout	PDIP, SOIC
MCP202(1/2)	LIN (Local Interconnect Network), LIN Transceiver with Voltage Regulator	-40 to +125	V <sub>REG</sub> = 5.0 ± 3%, 3.3 ± 3% @ 50 mA, V <sub>CC</sub> Range = 7.4 to 18V, Max Baud Rate = 20 Kbaud, Supports LIN Specs: 1.3, 2.0, 2.1, SAE J2602, Exceeds Automotive OEM ESD/EMC Requirements	PDIP, SOIC, TSSOP, DFN
MCP200(3/4)	Stand-alone LIN Transceiver	-40 to +125	V <sub>CC</sub> Range = 6 to 27V, Max Baud Rate = 20 Kbaud, Supports LIN Specs: 1.3, 2.0, 2.1, SAE J2602, Exceeds Automotive OEM ESD/EMC Requirements	PDIP, SOIC, DFN
MCP23X09/18	8-bit I/O Port Expander, 16-bit I/O Port Expander	-40 to +125	PC (up to 3.4 MHz) or SPI (up to 10 MHz) interface, 25 mA source/sink per I/O	PDIP, SDIP, SOIC, SSOP
MCP212(0/2), MCP2140A, MCP215(0/5)	Infrared IrDA Encoders, Decoders, Protocol Handlers	-40 to +85	UART to IR encoder/decoder hardware & software baud rate selection, IrDA <sup>®</sup> Standard protocol handler plus encoder/decoder	PDIP, SDIP, SOIC, SSOP
MCP2200	UART to USB Protocol Converter	-40 to +85	USB 2.0 Compliant, 8 GPIO, Supports High-speed USB (12 Mbps)	SOIC, SSOP, QFN
ENC28J60	Stand-Alone 10 Base-T Ethernet Controller with SPI Interface	-40 to +85	Ethernet Controller, 8 KB RAM Buffer, Integrated 10 BASE-T PHY	SPDIP, SOIC, SSOP, QFN
ENC424J600	Stand-Alone 10/100 Base-T Ethernet Controller with SPI and Parallel Interface	-40 to +85	Ethernet Controller, 24 KB RAM Buffer, Cryptographic Security Engine, 10/100 Base-T PHY	TOFP, QFN
ENC624J600	Stand-Alone 10/100 Base-T Ethernet Controller with SPI and Parallel Interface	-40 to +85	Ethernet Controller, 24 KB RAM Buffer, Cryptographic Security Engine, 10/100 Base-T PHY	TOFP

### Safety & Security – Smoke Detector and Horn Driver ICs

Product	Horn Driver	Detection Method	Low Battery Detection	Alarm Memory	Alarm Interconnect	Hush/Sensitivity Timer	Operating Temperature Range (°C)	Packages
RE46C140/1/3/4/5	Yes	Photo	Yes	No	Yes	140/4/5	-25 to +75	PDIP, SOIC
RE46C12X & 152	Yes	Ion	Yes	No	Not 120	122/7/152	-10 to +60	PDIP
RE46C10X & 11X	Yes	Just Driver	5/7/9/19	NA	9/19	None	See Datasheet	See Datasheet
RE46C162/3, 5/6/7/8	Yes	Ion/Photo	Yes	Yes	Yes	Yes	-25 to +75	PDIP, SOIC

Motor Drivers - Stepper Motors, DC Motors and 3 Phase BLDC Fan Controllers										
Product	Motor Type	Input Voltage Range (V)	Internal/External FETs	Output Current (mA)	Control Scheme	Motor Speed Output	Shutdown Protection	Temperature Operating Range (°C)	Features	Packages
MTS62C19A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overcurrent, Overtemperature, Under Voltage	-20 to +85	Dual Full Bridge Motor Driver for Stepper Motors, Pin Compatible with Allegro 6219	24-pin SOP
MTS2916A	One Bipolar Stepper Motor or Two DC Motors	10.0 to 40.0	Internal	750	Direct PWM Input, Current Limit Control, Microstepping	No	Overcurrent, Overtemperature, Under Voltage	-20 to +85	Dual Full Bridge Motor Driver for Stepper Motors, Pin Compatible with Allegro 2916	24-pin SOP
MTD6501C	3 Phase Brushless Fan	2.0 to 14.0	Internal	800	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Short Circuit, Overtemperature, Motor Lock-up	-10 to +85	3-Phase BLDC Sinusoidal Sensorless Fan Motor Driver	8-pin SOP
MTD6501D	3 Phase Brushless Fan	2.0 to 14.0	Internal	500	Sensorless Sinusoidal	Frequency Generator	Overcurrent, Short Circuit, Overtemperature, Motor Lock-up	-30 to +95	3-Phase BLDC Sinusoidal Sensorless Fan Motor Driver, Boost Mode	10-pin MSOP

RF Products				
WLAN Power Amplifiers				
Product	Description	Frequency	Linear Power (dBm) @ 3% EVM	Package
SST11LP12-QCF	802.11ah, High Power	4.9-5.8 GHz	21	3x3 QFN
SST11CP15-QUBE	802.11ah, Low DC Current	4.9-5.8 GHz	19	2x2 QFN
SST12CP11-QVCE	802.11gh, Ultra High Power	2.4-2.5 GHz	25.5	3x3 QFN
SST12LP07-QVCE-MM007	802.11g, High Power (Pin Compatible with TOP777002)	2.4-2.5 GHz	21.5	3x3 QFN
SST12LP07A-QXBE	802.11b/gn	2.4-2.5 GHz	21	12-pin 2x2 QFN
SST12LP07E-QX8E	802.11b/g	2.4-2.5 GHz	20.5	8-pin 2x2 XSON
SST12LP08-QX6E	802.11b/gn	2.4-2.5 GHz	20	6-pin 1.5x1.5 QFN
SST12LP08-QX8E	802.11b/gn	2.4-2.5 GHz	20	12-pin 2x2 QFN
SST12LP08A-QX8E	802.11b/gn	2.4-2.5 GHz	20.5	8-pin 2x2 XSON
SST12LP14A-QVCE	802.11g (General Purpose)	2.4-2.5 GHz	21.5	3x3 QFN
SST12LP14C-QVCE	802.11g (Pin Compatible with 12LP14)	2.4-2.5 GHz	18	3x3 QFN
SST12LP14E-QX6E	802.11b/gn (Low DC Current for Embedded)	2.4-2.5 GHz	18.5	6-pin 1.5x1.5 QFN
SST12LP14E-QX8E	802.11b/gn (Low DC Current for Embedded)	2.4-2.5 GHz	18.5	8-pin 2x2 QFN
SST12LP15A-QVCE	802.11b/gn, High Power	2.4-2.5 GHz	22.5	3x3 QFN
SST12LP15B-QVCE	802.11b/gn, High Power	2.4-2.5 GHz	22.5	3x3 QFN
SST12LP15B-QXBE	802.11b/gn, High Power	2.4-2.5 GHz	22.5	2x2 QFN
SST12LP17E-QU8E	802.11b/gn, Fully Matched	2.4-2.5 GHz	18	2x2 QFN
SST12LP19E-QX6E	802.11b/gn (Low DC Current for Embedded)	2.4-2.5 GHz	19	6-pin 1.5x1.5 QFN
SST12LP19E-QX8E	802.11b/gn (Low DC Current for Embedded)	2.4-2.5 GHz	19	8-pin 2x2 QFN
SST13LP05-MLCF	802.11a/b/g Dual-Band (Fully Matched)	2.4-2.5 GHz 5.1-5.8 GHz	18.5 17.5	4x4 LGA
Front End Modules				
Product	Description	Frequency	NF (dB)/PA Linear Power (dBm) @ 3% EVM	Package
SST12LF01-QDE	802.11b/g Front End Module PA+LNA	2.4-2.5 GHz	1.5 / 21.5	4x4 QFN
SST12LF02-QXCE	802.11b/gn Front End Module PA (Fully Matched) + SP3T SW	2.4-2.5 GHz	18.5	3x3 QFN
Low-Noise Amplifiers				
Product	Description	Frequency	NF (dB)	Package
SST12LN01-QU6F	Low-Noise Amplifier (Fully Matched)	2.4 GHz	1.5	3x1.6 QFN

## Real-Time Clocks

Bus	Product	Alarm Settings <sup>1)</sup>	Outputs	Digital Trim (Adj/Range)	SRAM <sup>3)</sup> (Bytes)	EEPROM (Kbits)	ID <sup>2)</sup> /MAC	Minimum Voltage	I <sub>BAT</sub> (nA)	Additional Features	Pins	Packages	Bus
I <sup>2</sup> C	MCP79410	2	1 MFP (IRO/CLK)	+1 ppm/±127 ppm	64	1	Blank ID	V <sub>CC</sub> : 1.8V, V <sub>BAT</sub> : 1.3V	700	Battery switchover, Power-fail timestamp	8	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)	I <sup>2</sup> C
	MCP79411	2	1 MFP (IRO/CLK)	+1 ppm/±127 ppm	64	1	EUI-48	V <sub>CC</sub> : 1.8V, V <sub>BAT</sub> : 1.3V	700	Battery switchover, Power-fail timestamp	8	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)	
	MCP79412	2	1 MFP (IRO/CLK)	+1 ppm/±127 ppm	64	1	EUI-64	V <sub>CC</sub> : 1.8V, V <sub>BAT</sub> : 1.3V	700	Battery switchover, Power-fail timestamp	8	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)	
	MCP79400	2	1 MFP (IRO/CLK)	+1 ppm/±127 ppm	64	0	Blank ID	V <sub>CC</sub> : 1.8V, V <sub>BAT</sub> : 1.3V	700	Battery switchover, Power-fail timestamp	8	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)	
	MCP79401	2	1 MFP (IRO/CLK)	+1 ppm/±127 ppm	64	0	EUI-48	V <sub>CC</sub> : 1.8V, V <sub>BAT</sub> : 1.3V	700	Battery switchover, Power-fail timestamp	8	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)	
	MCP79402	2	1 MFP (IRO/CLK)	+1 ppm/±127 ppm	64	0	EUI-64	V <sub>CC</sub> : 1.8V, V <sub>BAT</sub> : 1.3V	700	Battery switchover, Power-fail timestamp	8	SOIC (SN), TSSOP (ST), MSOP (MS), TDFN (MNY)	

1. Alarm settings on 1 second count.
2. Unique ID is 64 bits of protected EEPROM.
3. Battery backed SRAM.

## Serial Memory Products

Bus	Product	Released (R) Not Released (NR)	Density	Organization	Max. Clock Frequency	Operating Voltage	Temperature Range	EW Endurance (Minimum)	Data Retention (Minimum)	Max. Write Speeds	Max. Standby Current (@±1.5V, 85°C)	Write Protect		Protected Array Size	5 kV Pricing <sup>1)</sup>	Special/Unique Features	Packages	Bus
												Hardware	Software					
<b>Serial SRAM</b>																		
SPI	23X640	R	64 Kb	x8	20 MHz	1.5V-1.95V 2.7V-3.6V	-40°C to +125°C	∞	Volatile	0 ms	4 µA	-	-	-	\$0.51	20 MHz @ 3V, 32 byte page buffer, Zero write cycle time, Infinite endurance	SOIC (SN), PDIP (P), TSSOP (ST)	SPI
	23X256	R	256 Kb	x8	20 MHz	1.5V-1.95V 2.7V-3.6V	-40°C to +125°C	∞	Volatile	0 ms	4 µA	-	-	-	\$0.96	20 MHz @ 3V, 32 byte page buffer, Zero write cycle time, Infinite endurance	SOIC (SN), PDIP (P), TSSOP (ST)	
<b>Serial EEPROM</b>																		
UNI/O Bus	11X010	R	1 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	-	✓	W, ½, ¼	\$0.23	Single I/O for all clock, data, control and write protection	3-SOT-23 (TT), SOIC (SN), PDIP (P), DFN (MNY), MSOP (MS), TO-92 (TO), WLCSP (CS)	UNI/O Bus
	11X0020/E48	R	2 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	-	✓	W, ½, ¼	\$0.25	Single I/O for all clock, data, control and write protection, Unique EUI-48™/EUI-64™, MAC address option available	3-SOT-23 (TT), SOIC (SN), PDIP (P), DFN (MNY), MSOP (MS), TO-92 (TO), WLCSP (CS)	
	11X040	R	4 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	-	✓	W, ½, ¼	\$0.26	Single I/O for all clock, data, control and write protection	3-SOT-23 (TT), SOIC (SN), PDIP (P), DFN (MNY), MSOP (MS), TO-92 (TO), WLCSP (CS)	
	11X080	R	8 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	-	✓	W, ½, ¼	\$0.30	Single I/O for all clock, data, control and write protection	3-SOT-23 (TT), SOIC (SN), PDIP (P), DFN (MNY), MSOP (MS), TO-92 (TO), WLCSP (CS)	
	11X160	R	16 Kb	x8	100 kHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	-	✓	W, ½, ¼	\$0.33	Single I/O for all clock, data, control and write protection	3-SOT-23 (TT), SOIC (SN), PDIP (P), DFN (MNY), MSOP (MS), TO-92 (TO), WLCSP (CS)	
	24XX00	R	128 b	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	4 ms	1 µA	-	-	-	\$0.17	100 KHz operation from 1.7V to 4.5V	SOIC (SN), TSSOP (ST), 5-SOT-23 (OT), DFN (MF), PDIP (P)	
I <sup>2</sup> C	24XX01/014	R	1 Kb	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	-	W, ½	\$0.18	Address pin option - connect up to 8 devices on bus, Very low voltage option	SOIC (SN), TSSOP (ST), PDIP (P), 5-SOT-23 (OT), DFN (MNY), MSOP (MS), SC70 (LT)	I <sup>2</sup> C
	24XX02/024/E48	R	2 Kb	x8	400 kHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W, ½	\$0.20	Address pin option - connect up to 8 devices on bus, Very low voltage option, Unique EUI-48™/EUI-64™ MAC address option available	SOIC (SN), TSSOP (ST), PDIP (P), 5-SOT-23 (OT), DFN (MNY), MSOP (MS), SC70 (LT)	
	34XX02	R	2 Kb	x8	1 MHz	1.7V-5.5V 1.5V-3.6V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½	\$0.18	1 MHz @ 2.5V, Permanent and restorable software WP - DIMM-DDR2/3	SOIC (SN), TSSOP (ST), PDIP (P), 6-SOT-23 (OT), DFN (MNY), MSOP (MS)	
	24XX04	R	4 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W, ½	\$0.21	400 KHz @ 2.5V, 16 byte page write buffer, No address pins	SOIC (SN), PDIP (P), TSSOP (ST), 5-SOT-23 (OT), DFN (MNY), MSOP (MS), WLCSP (CS)	
	24XX08	R	8 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W, ½	\$0.23	400 KHz @ 2.5V, 16 byte page write buffer, No address pins	SOIC (SN), TSSOP (ST), 5-SOT-23 (OT), PDIP (P), DFN (MNY), MSOP (MS)	
	24XX16	R	16 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W, ½	\$0.25	400 KHz @ 2.5V, 16 byte page write buffer, No address pins	SOIC (SN), TSSOP (ST), PDIP (P), 5-SOT-23 (OT), DFN (MNY), MSOP (MS), WLCSP (CS)	
	24XX32A	R	32 Kb	x8	400 kHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W, ¼	\$0.31	400 KHz @ 2.5V, 32 byte page write buffer, connect up to 8 devices on bus	SOIC (SN), TSSOP (ST), PDIP (P), 5-SOT-23 (OT), DFN (MNY), MSOP (MS), WLCSP (CS)	
	24XX64/65	R	64 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M, 10M	200 Years	5 ms	1 µA	✓	-	W, ¼	\$0.38	1 MHz @ 2.5V, 32/64 byte page, Relocatable 4 Kb block with 10M cycles endurance	SOIC (SN), TSSOP (ST), PDIP (P), 5-SOT-23 (OT), DFN (MNY), MSOP (MS), WLCSP (CS)	
	24XX128	R	128 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W	\$0.54	1 MHz @ 2.5V, 64 byte page, connect up to 8 devices on bus	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MNY), MSOP (MS), WLCSP (CS)	
	24XX256	R	256 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W	\$0.83	1 MHz @ 2.5V, 64 byte page, connect up to 8 devices on bus	SOIC (SN), TSSOP (ST), SOU (SM), PDIP (P), DFN (MF), MSOP (MS), WLCSP (CS)	
	24XX512	R	512 Kb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	1 µA	✓	-	W	\$1.50	1 MHz @ 2.5V, 128 byte page, connect up to 8 devices on bus	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MF), SOU (SM), WLCSP (CS)	
	24XX1025	R	1 Mb	x8	1 MHz	1.7V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	5 µA	✓	-	W	\$3.14	1 MHz @ 2.5V, 128 byte page, connect up to 4 devices on bus	SOIC (SN), SOU (SM), PDIP (P)	

1. All devices are Pb-Free and RoHS compliant.
  2. ESD protection > 4 kV (HBM); >400V (MM) on all pins.
  3. Write Protect (WP): W = Whole Array, ½ = Half Array, ¼ = Quarter Array.
  4. Factory program and unique ID options available.
  5. Die and wafer options available on all devices.
- 1 - Pricing subject to change; please contact your Microchip representative for most current pricing.

## Serial Memory Products

Bus	Product	Released (R) Not Released (NR)	Density	Organization	Max. Clock Frequency	Operating Voltage	Temperature Range	E/W Endurance (Minimum)	Data Retention (Minimum)	Max. Write Speeds	Max. Standby Current (65.5V, 85°C)	Write Protect		Protected Array Size	5-yr Pricing <sup>1</sup>	Special/Unique Features	Packages	Bus
												Hardware	Software					
<b>Serial EEPROM (Cont.)</b>																		
Microwire	93XX46A/B/C	R	1 Kb	x8/x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	-	-	-	\$0.18	ORG pin to select word size on 46C version	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	Microwire
	93XX56A/B/C	R	2 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	-	-	-	\$0.20	ORG pin to select word size in 56C version	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	
	93XX66A/B/C	R	4 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	-	-	-	\$0.21	ORG pin to select word size in 66C version	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	
	93XX76A/B/C	R	8 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	✓	-	W	\$0.30	ORG pin to select word size in 76C version	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	
SPI	93XX86A/B/C	R	16 Kb	x8 / x16	3 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	1 µA	✓	-	W	\$0.33	ORG pin to select word size in 86C version	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	SPI
	25XX010A	R	1 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.30	5 MHz @ 2.5V, Status register, 16 byte page	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	
	25XX020A/E48	R	2 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.31	5 MHz @ 2.5V, Status register, 16 byte page, Unique EUI-48™/EUI-64™ MAC address option available	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	
	25XX040A	R	4 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.33	5 MHz @ 2.5V, Status register, 16 byte page	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MC), MSOP (MS), 6-SOT-23 (OT)	
	25XX080C/D	R	8 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.40	16/32 byte page, 5 MHz @ 2.5V, Status register	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MNV), MSOP (MS)	
	25XX160C/D	R	16 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.41	16/32 byte page, 5 MHz @ 2.5V, Status register	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MNV), MSOP (MS)	
	25XX320A	R	32 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.45	5 MHz @ 2.5V, Status register, 32 byte page	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MNV), MSOP (MS)	
	25XX640A	R	64 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.46	5 MHz @ 2.5V, Status register, 32 byte page	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MNV, MF), MSOP (MS)	
	25XX128	R	128 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$0.74	5 MHz @ 2.5V, Status register, 64 byte page	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MF)	
	25XX256	R	256 Kb	x8	10 MHz	1.8V-5.5V	-40°C to +150°C	1M	200 Years	5 ms	1 µA	✓	✓	W, ½, ¼	\$1.01	5 MHz @ 2.5V, Status register, 64 byte page	SOIC (SN), TSSOP (ST), PDIP (P), DFN (MF), SOU (SM)	
	25XX512	R	512 Kb	x8	20 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	5 ms	10 µA	✓	✓	W, ½, ¼	\$1.53	10 MHz @ 2.5V, Deep power down, Status register, Page/Sector/Chip erase	SOIC (SN), PDIP (P), DFN (MF), SOU (SM)	
	25XX1024	R	1 Mb	x8	20 MHz	1.8V-5.5V	-40°C to +125°C	1M	200 Years	6 ms	12 µA	✓	✓	W, ½, ¼	\$2.59	10 MHz @ 2.5V, Deep power down, Status register, Page/Sector/Chip erase	PDIP (P), DFN (MF), SOU (SM)	

- All devices are Pb-Free and RoHS compliant.
- ESD protection > 4 kV (HBM); >400V (MM) on all pins.
- Write Protect (WP): W = Whole Array, ½ = Half Array, ¼ = Quarter Array
- Factory program and unique ID options available.
- Die and wafer options available on all devices.
- Pricing subject to change; please contact your Microchip representative for most current pricing.

## SST NOR Flash Memory

Voltage	Density	Parallel	SPI (Serial)	SQI™ (Quad-bit)	FWH/LPC	Voltage	Density	Parallel	SPI (Serial)	SQI™ (Quad-bit)	FWH/LPC
5V	512 Kbit	-	-	-	-	1.8V	512 Kbit	-	25WF512	-	-
	1 Mbit	39SF010A	-	-	-		1 Mbit	-	25WF010	-	-
	2 Mbit	39SF020A	-	-	-		2 Mbit	-	25WF020	-	-
	4 Mbit	39SF040	-	-	-		4 Mbit	39WF400B	25WF040	-	-
3V	512 Kbit	39VF512	25VF512A	-	-		8 Mbit	39WF800B	25WF080	26WF080B	-
	1 Mbit	39VF010	25VF010A	-	-		16 Mbit	39WF160X	-	26WF016B	-
	2 Mbit	39VF020, 39VF200A	25VF020B	-	-		32 Mbit	-	-	26WF032/26WF032B	-
	4 Mbit	39VF040, 39VF400A	25VF040B	-	-		64 Mbit	-	-	26WF064B	-
	8 Mbit	39VF800A	25VF080B	-	49LF008B, 49LF080B						
	16 Mbit	39VF160XC, 39VF168X	25VF016B	26VF016/26VF016B	49LF016C, 49LF160C						
	32 Mbit	39VF320XB	25VF032B	26VF032/26VF032B	-						
	64 Mbit	39VF640XB, 39VF640X	25VF064C	26VF064B	-						

X = 1 or 2 for 39 Series  
X = 1, 2, 3 or 4 for 36 and 38 Series



## Wireless Products

### IEEE 802.11 Modules

Product	Pin Count	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	TX Power Consumption (mA)	RX Power Consumption (mA)	Clock	Sleep	MAC	MAC Features	Encryption	Interface	Volume Pricing <sup>†</sup>	Packages
ZG2100MC	36	2.412-2.484	-91	10	Yes	156	85	25 MHz	0.1	Yes	802.11	WPA, WPA2, WEP	4-wire SPI	\$26.57	36 Module
ZG2101MC	36	2.412-2.484	-91	10	Yes	156	85	25 MHz	0.1	Yes	802.11	WPA, WPA2, WEP	4-wire SPI	\$26.57	36 Module

### IEEE 802.15.4 Transceivers/Modules

Product	Pin Count	Frequency Range (GHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	TX Power Consumption (mA)	RX Power Consumption (mA)	Clock	Sleep	MAC	MAC Features	Encryption	Interface	Volume Pricing <sup>†</sup>	Packages
MRF24J40	40	2.405-2.48	-95	0	Yes	23	19	20 MHz	Yes	Yes	CSMA-CA	AES128	4-wire SPI	\$2.36	40/QFN
MRF24J40MA	12	2.405-2.48	-95	0	Yes	23	19	20 MHz	Yes	Yes	CSMA-CA	AES128	4-wire SPI	\$8.99	12/Module
MRF24J40MB	12	2.405-2.475	-102	20	Yes	130	25	20 MHz	Yes	Yes	CSMA-CA	AES128	4-wire SPI	\$15.70	12/Module
MRF24J40MC	12	2.405-2.475	-102	20	Yes	130	25	20 MHz	Yes	Yes	CSMA-CA	AES128	4-wire SPI	\$15.70	12/Module

### Sub-GHz Transceivers/Modules

Product	Pin Count	Frequency Range (MHz)	Sensitivity (dBm)	Power Output (dBm)	RSSI	TX Power Consumption (mA)	RX Power Consumption (mA)	Clock	Sleep	Interface	Volume Pricing <sup>†</sup>	Packages	
MRF49XA	16	433/868/915	-110	7	Yes	15 mA @ 0 dBm		11	10 MHz	Yes	4-wire SPI	\$1.71	16/TSSOP
MRF89XA	32	868/915/950	-113	12.5	Yes	25 mA @ 10 dBm		3	12.8 MHz	Yes	4-wire SPI	\$2.05	32/QFN

### rPIC™ Transmitters + PIC® MCUs

Product	I/O Pins	Frequency Range (MHz)	Program Bytes	Program Words	EEPROM	RAM (bytes)	Digital Timer	Watch Dog Timer	Max. Speed (MHz)	ICSP™	Modulation	Data Rate (kbps)	Output Power (dBm)	Operating Voltage	Other Features	Volume Pricing <sup>†</sup>	Packages
rPIC12F675F	6	380-450	1792	1024 x 12	128	64	1	1	20	Yes	ASK/FSK	40	10	2.0-5.5	4x10-bit A/D, Comparator	\$2.11	20/SSOP 208 mil
rPIC12F675H	6	850-930	1792	1024 x 12	128	64	1	1	20	Yes	ASK/FSK	40	10	2.0-5.5	4x10-bit A/D, Comparator	\$2.11	20/SSOP 208 mil
rPIC12F675K	6	290-350	1792	1024 x 12	128	64	1	1	20	Yes	ASK/FSK	40	10	2.0-5.5	4x10-bit A/D, Comparator	\$2.11	20/SSOP 208 mil

### RF Receivers














































Product	Frequency Range (MHz)	Modulation	Data Rate (kbps)	Sensitivity (dBm)	IF Frequency Range (MHz)	Operating Voltage	RSSI	Selectable LNA Gain	Volume Pricing <sup>†</sup>	Packages
rRXD0420	300-450	ASK, FSK, FM	80	-111	0.455-21.4	2.5-5.5	Yes	Yes	\$1.71	32/LQFP
rRXD0920	800-930	ASK, FSK, FM	80	-109	0.455-21.4	2.5-5.5	Yes	Yes	\$2.62	32/LQFP

† - Pricing subject to change; please contact your Microchip representative for most current pricing.

## Terms and Definitions

<b>1 KB</b>	1024 bytes	<b>EEPROM</b>	Electrically Erasable Programmable Read Only Memory	<b>mTouch™</b>	Proprietary Touch Sensing Technology
<b>1 Kw</b>	1024 words	<b>EFT</b>	Electrical Fast Transient	<b>PIC24</b>	16-bit Core
<b>18F/PIC18</b>	16-bit instruction word – 75/83 instructions	<b>EMC</b>	Electromagnetic Compatibility	<b>PIC32</b>	32-bit Core
<b>ADC</b>	Analog to Digital Converter	<b>EMI</b>	Electromagnetic Interference	<b>PLVD</b>	Programmable Low Voltage Detect
<b>AUSART</b>	Addressable Universal Synchronous Asynchronous Receiver Transceiver	<b>EMR/Enhanced-MidRange</b>	14-bit instruction word – 49 instructions (denoted as PIC1XF1XXX)	<b>POR/POOR</b>	Power ON Reset/Power ON/OFF Reset
<b>BL/Baseline</b>	12-bit instruction word – 33 instructions	<b>ESD</b>	Electrostatic Discharge	<b>PWM</b>	Pulse Width Modulation
<b>BOR/PBOR</b>	Brown Out Reset/Programmable Brown Out Reset	<b>ELUSART</b>	Enhanced Universal Synchronous Asynchronous Receiver Transceiver	<b>RAM</b>	Random Access Memory
<b>CCP/ECCP</b>	Capture Compare PWM/Enhanced Capture Compare PWM	<b>EWDT/WDT</b>	Extended Watch Dog Timer/Watch Dog Timer	<b>RTC</b>	Real-Time Clock/Calendar
<b>CLC</b>	Configurable Logic Cell	<b>HV</b>	High Voltage	<b>Source/Sink Current</b>	All Products Support 25 mA per I/O
<b>Comp</b>	Capacitive Sensing Implemented via Comparator	<b>ICD</b>	In-Circuit Debug	<b>SR Latch</b>	Set/Reset Latch
<b>CRC</b>	Cyclical Redundancy Check	<b>ICE</b>	In-Circuit Emulation	<b>SRAM</b>	Static Random Access Memory
<b>CSM</b>	mTouch – Capacitive Sensing Module	<b>ICSP™</b>	In-Circuit Serial Programming™	<b>SPI</b>	Serial Peripheral Interface
<b>CSP</b>	Chip Scale Package	<b>IDE</b>	Integrated Development Environment	<b>T1G</b>	Timer 1 Gate
<b>CTMU</b>	mTouch – Charge Time Measurement Unit	<b>LCD</b>	Liquid Crystal Display	<b>USART</b>	Universal Synchronous Asynchronous Receiver Transceiver
<b>CVD</b>	Charge Voltage Divide (Capacitive Sensing Implemented via ADC)	<b>LDO</b>	Low Drop-Out voltage regulator	<b>USB</b>	Universal Serial Bus
<b>CWG</b>	Complimentary Waveform Generator	<b>LF</b>	Low Power Flash	<b>USB (Full Speed)</b>	12 Mb/s Data Rate
<b>DDS</b>	Direct Digital Synthesis	<b>MFC/PC</b>	Master Inter-Integrated Circuit bus/Inter-Integrated Circuit bus	<b>USB OTG</b>	USB On-The-Go
<b>DSM</b>	Data Signal Modulator	<b>MIPS</b>	Million Instructions Per Second	<b>XLP</b>	nanoWatt XLP eXtreme Low Power Technology
<b>dsPIC</b>	16-bit Core with DSP	<b>MR/Mid-Range</b>	14-bit instruction word – 35 instructions		
<b>ECAN</b>	Enhanced Controller Area Network	<b>MSSP/SSP</b>	Master/Synchronous Serial Port (I <sup>2</sup> C & SPI Peripheral)		

## Product Packages






























Small Outline		Dual Flat No Lead DFN	Quad Flat No Lead QFN	Plastic Shrink Small Outline SSOP	Plastic Small Outline SOIC
 Bumped Die (WLCSP)	 3-lead DPAK (EB)	 8-lead DFN (MC) 2 x 3 x 0.9 mm	 16-lead QFN (MG) 3 x 3 x 0.9 mm	 8-lead MSOP (MS)	 8-lead SOIC (SN)
 Die/Wafer (WLCSP)	 5-lead DPAK (ET)	 8-lead TDFN (MN) 2 x 3 x 0.75 mm	 20-lead QFN (ML) 4 x 4 x 0.9 mm	 10-lead MSOP (UN)	 8-lead SOIC (SM)
 3-lead SC70 (LB)	 3-lead SC-89	 8-lead UDFN (MU) 2 x 3 x 0.5 mm	 20-lead QFN (MQ) 5 x 5 x 0.9 mm	 16-lead QSOP (QR)	 14-lead SOIC (SL)
 5-lead SC70 (LT)	 3-lead TO-92 (TO/ZB)	 8-lead DFN (MF) 3 x 3 x 0.9 mm	 28-lead UQFN (MV) 4 x 4 x 0.5 mm	 20-lead SSOP (SS)	 16-lead SOIC (SL)
 3-lead SOT-23 (TT/CB)	 5-lead TO-220 (AT)	 8-lead DFN (MD) 4 x 4 x 0.9 mm	 28-lead QFN (MM & ML) 6 x 6 x 0.9 mm	 28-lead SSOP (SS)	 18-lead SOIC (SO)
 5-lead SOT-23 (OT)		 8-lead DFN (MF) 6 x 5 x 0.9 mm	 40-lead UQFN (MV) 5 x 5 x 0.5 mm	 Plastic Thin Shrink Small Outline TSSOP	 20-lead SOIC (SO)
 6-lead SOT-23 (OT/CH)			 44-lead QFN (ML) 8 x 8 x 0.9 mm	 8-lead TSSOP (ST)	 28-lead SOIC (SO)
 3-SOT-223 (DB)			 64-lead QFN (MR) 9 x 9 x 0.9 mm	 14-lead TSSOP (ST)	 28-lead SOIC (SO)
 4-lead SOT-143 (RC)				 20-lead TSSOP (ST)	

Packages are shown approximate size.

Additional packages are available – contact your local Microchip sales office for additional information.

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## Product Packages

Plastic Thin Quad Flatpack TQFP		Plastic Quad Flatpack QFP	Plastic Dual In-Line PDIP	Additional SST Package Options	
					
44-lead TQFP (PT) 10 x 10 x 1 mm	80-lead TQFP (PF) 14 x 14 x 1 mm	32-lead LQFP (LQ) 7 x 7 x 1.4 mm	8-lead PDIP (P)	8-lead WSON (A6/QAE) 5 x 6 mm	6-lead XSON (QX/QX6E) 1.5 x 1.5 x .5 mm
					
64-lead TQFP (PT) 10 x 10 x 1 mm	100-lead TQFP (PT) 12 x 12 x 1 mm	44-lead MQFP (BQ) 10 x 10 x 2 mm	14-lead PDIP (P)	32-lead PDIP (P2/PHE) 600 mil	8-lead XSON (Q7/QX8E) 2 x 2 x .5 mm
					
64-lead TQFP (PF) 14 x 14 x 1 mm	100-lead TQFP (PF) 14 x 14 x 1 mm		18-lead PDIP (P)	32-lead PLCC (PE/NHE) .452" x .552"	6-lead UQFN (QU/QU6E) 3 x 1.6 x .5 mm
		<b>Ball Grid Array BGA</b>			
80-lead TQFP (PT) 12 x 12 x 1 mm				40-lead TSOP (W8/EIE) 10 x 20 mm	16-lead LFLGA (MF/MLCF) 4 x 4 x 1.4 mm
		100-ball BGA (BG) 10 x 10 x 1.1 mm			<b>8051-based Microcontrollers</b>
			28-lead SPDIP (SP)	48-lead WFBGA (3T/MAQE) 4 x 6 x .73 mm	
					44-lead PLCC (T2/NJE) .652" x .652"
			40-lead PDIP (P)	48-lead TFBGA (8T/B3KE) 6 x 8 x 1.2 mm	
					
				48-lead TSOP (W9/EKE) 12 x 20 x 1.2 mm	

Packages are shown approximate size.

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