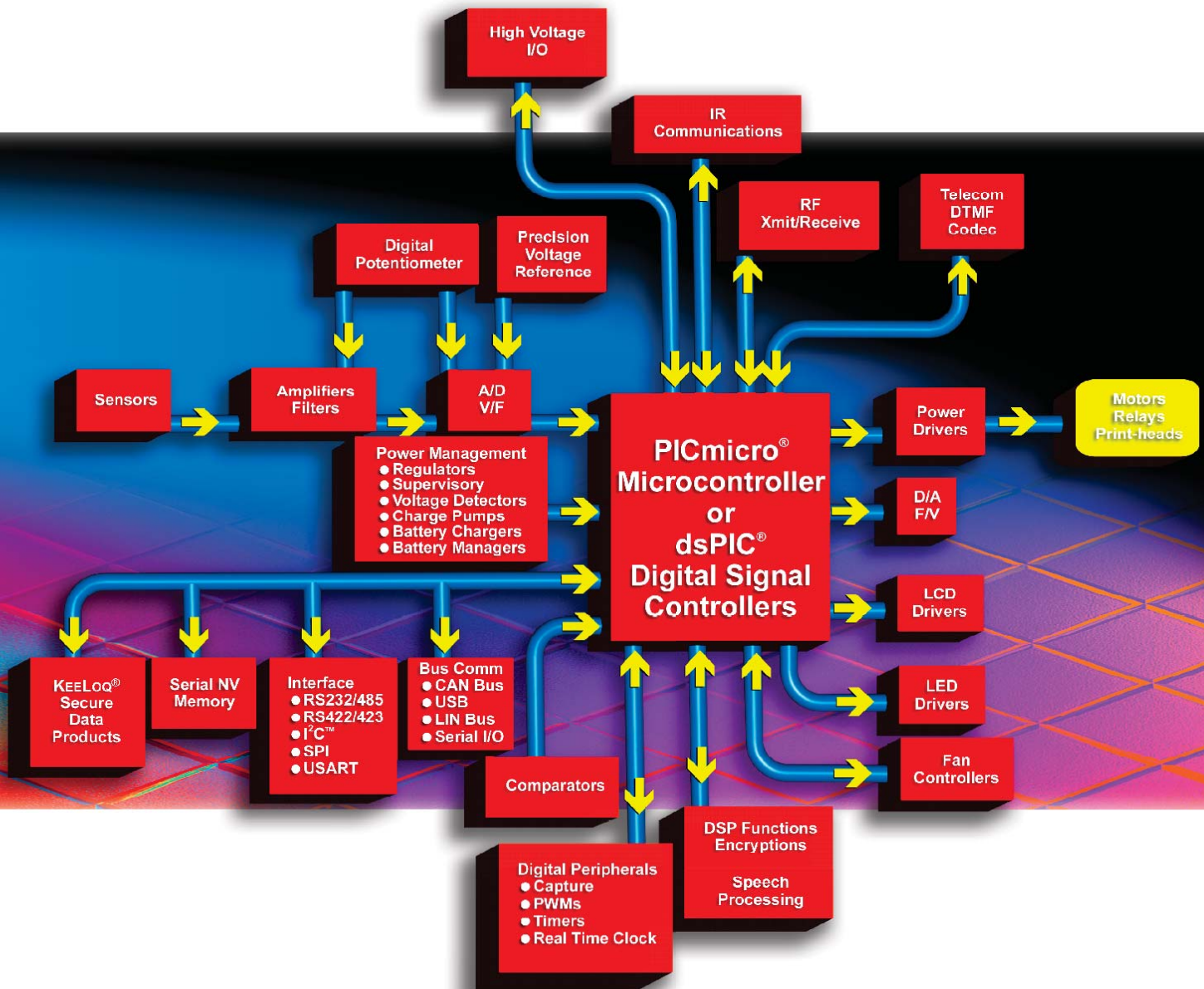# MICROCHIP

2006 Product Line Card

Looking for a Business Partner, Not Just a Vendor?

Successful companies recognize the value of a strategic supplier relationship to help them deliver innovative products to their markets in a timely manner. They trust their suppliers to furnish quality components for current design opportunities as well as provide technology road maps and innovative solutions to stay ahead of tomorrow's design trends.

Microchip Technology provides low-risk product development, lower total system cost and faster time to market to more than 45,000 of these successful companies worldwide. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality.

Founded in 1989, Microchip's business model is based on a series of guiding values that aim to establish successful customer partnerships by exceeding expectations for products, services and attitude. Continuous improvement, technology innovation and the pursuit of the highest quality possible drive Microchip's company culture.

The result is a worldwide organization dedicated to delivering whole product solutions which include high performance silicon devices, easy-to-use development tools, outstanding technical support and sophisticated technical documentation.

Need Additional Support and Resources?

Microchip is committed to supporting its customers by helping design engineers develop products faster and more efficiently. Customers can access four main service areas at www.microchip.com. The Support area provides a fast way to get questions answered. The Sample area offers free evaluation samples of any Microchip device. microchipDIRECT provides 24-hour pricing, ordering, inventory and credit for convenient purchasing of all Microchip devices and development tools. This site also features online programming capabilities. Finally, the Training area educates customers through webinars, sign-ups for local seminar and workshop courses, and information about the annual MASTERs conferences held throughout the world.

Have you ever encountered a technical dilemma at a critical point in your design development and your supplier was not available to answer your questions? Microchip's first ever 24/7 global technical support line brings technical support resources any time help is needed. Because some technical problems require hands-on assistance in order to be resolved quickly, Microchip has developed a global team of field applications engineers and field sales engineers for local assistance.

Are Quality and Delivery a Concern?

Microchip's quality systems are certified according to the International Organization for Standards/Technical Specification (ISO/TS)-16949:2002 requirements. This demonstrates that the Company's quality systems meet the most stringent industry quality-management system standards, resulting in high-quality semiconductor products.

Direct control over manufacturing resources allows shortened design and production cycles. By owning the wafer fabrication facilities and the majority of the test and assembly operations, and by employing proprietary statistical process control techniques, Microchip has been able to achieve and maintain high production yields.

Innovative Portfolio

8-bit PIC® Microcontrollers

Does your embedded application require low cost and small package sizes? The peripheral-rich 8-bit PIC microcontrollers offer the best price/performance ratio in the industry with Flash, one-time-programmable and ROM program memory options. Based on a powerful RISC core, these families feature a common architecture for easy migration from 6 to 100 pins with little or no code change required.

16-bit PIC® Microcontrollers

Do you need increased performance? The 16-bit PIC24 microcontrollers build upon the performance, peripherals and features found in the 8-bit PIC18 family, offering up to 40 MIPS. When paired with the optimized MPLAB® C30 C Compiler, PIC24 microcontrollers provide the high throughput and C code density needed to achieve system performance goals and product launch schedules.

The PIC24F and PIC24H series are completely software and MPLAB® IDE compatible, providing easy migration as project requirements change, giving design engineers the ability to add performance and functionality to applications without sacrificing the initial investment and engineering resources.

16-bit dsPIC® Digital Signal Controllers (DSC)

Does your design require advanced computational power? The 16-bit high-performance dsPIC DSCs combine the best features of microcontrollers with the best features of DSPs in a single core. With speeds of up to 40 MIPS, they are designed for C programming efficiency, have Flash program memory, data EEPROM, powerful peripherals and a variety of software libraries. With a familiar microcontroller "feel" in tools and design environment, these dsPIC DSCs target motor control and power conversion, speech and audio, internet and modem connectivity, telecom, encryption, high-speed sensing and automotive applications.

Analog & Interface Products

Do you use analog and/or interface products in your embedded application? If so, Microchip provides an extensive portfolio of linear, mixed-signal, power management, thermal management, battery management and interface devices for just about any need. Consult the product listings in the next section for information on specific types of products and thousands of device options.

Serial EEPROMS

Need stand-alone memory? Microchip also offers one of the broadest selections of serial EEPROMs in densities from 128 bits to 1 Mbit, with operating voltages down to 1.8V, in all popular bus protocols (I^2C™, Microwire and SPI compatible). They are available in all standard temperature ranges from -40°C to +125°C and packaged in the world's smallest standard packaging: up to 16 Kbits in 5-lead SOT-23 and up to 256 Kbits in 8-lead MSOP.

Secure Data Products

An ideal solution for unidirectional RKE systems is Microchip's KEELOQ® code hopping algorithm. This patented technology combines high security, a small package outline and a very low cost. The KEELOQ code hopping technology creates a high degree of security using a long code word length together with encryption and synchronization techniques. Visit the Microchip web site for more information.

8-bit Microcontrollers

Family	Devices In Family	Pin Count	Flash (Kbytes)	EEPROM (Bytes)	RAM (Bytes)	ADC Ch	Comp	Timers	CCP/ ECCP	Interfaces	Other Features
PIC10 – 500 ns Instruction Execution, 33 Instruction, 8 MHz											
PIC10F222	6	6	0.75/0.375	–	24/16	2x8-bit	1	1x8-bit	–	–	Internal Bandgap reference
PIC12 – 500 ns Instruction Execution, 33 Instruction, 20 MHz											
PIC12F509	2	8	1.5/0.75	–	41/25	–	–	1x8-bit	–	–	
PIC12F510	1	8	1.5	–	38	3x8-bit	1	1x8-bit	–	–	Internal Bandgap reference
PIC12F635	1	8	1.75	128	64		1	1x8-bit, 1x16-bit	–	–	KᴇᴇLᴏϙ®, WUR
PIC12F675	2	8	1.75	128	64	4x10-bit	1	1x8-bit, 1x16-bit	–	–	
PIC12F683	1	8	3.5	256	128	4x10-bit	1	1x16-bit, 2x8-bit	1/0	–	
PIC16 – 100-200 ns Instruction Execution, 35 Instruction, 20 MHz											
PIC16F50X	2	14	1.5	–	72 / 67	3x8-bit	2	1x8 bit	–	–	Internal Bandgap reference
PIC16F676	2	14	1.75	128	64	8x10-bit	2	1x8 bit, 1x16 bit	–	–	
PIC16F684	1	14	3.5	256	128	8x10-bit	2	1x16 bit, 2x8 bit	0/1	–	
PIC16F688	1	14	7	256	256	8x10-bit	2	1x8 bit, 1x16 bit	–	EUSART	
PIC16F716	1	18	3.5	–	128	4x10-bit	–	1x16 bit, 2x8 bit	0/1	–	
PIC16F690	6	20	7/3.5/1.75	256/128	256/128/64	12x10-bit	2	1x16 bit, 2x8 bit	0/1	EUSART, I²C/SPI	Internal Bandgap reference
PIC16F785	1	20	3.5	256	128	12x10-bit	2	1x16 bit, 2x8 bit	1/0		2x Op amp, Int Shunt Reg
PIC16F946	1	64	14	256	336	8x10-bit	2	1x16 bit, 2x8 bit	2/0	AUSART/I²C/SPI	**LCD Control - 96 segments**
PIC16F819	2	20/18	3.5/1.75	256	256/128	5x10-bit	–	1x16 bit, 2x8 bit	1/0	I²C/SPI	
PIC16F88	2	20/18	3.5	256	368/256	7x10-bit	2	1x16 bit, 2x8 bit	1/0	AUSART/I²C/SPI	
PIC16F5X	3	40/28/18	3/0.75	–	134/25	–	–	1x8 bit	–	–	
PIC16F77	5	44/28	14/7/3.5	–	368/192	8 x 8-bit	–	1x16 bit, 2x8 bit	2/0	USART, I²C/SPI	PSP
PIC16F777	4	44/28	14/7	–	368	14x10-bit	2	1x16 bit, 2x8 bit	3/0	AUSART, MI2C/SPI	PSP
PIC16F877A	7	44/28	14/7/3.5	256	368/192	8x10-bit	2	1x16 bit, 2x8 bit	2/0	AUSART, MI²C/SPI	PSP
PIC16F917	4	44/28	14/7	256	352	8x10-bit	2	1x16 bit, 2x8 bit	2/0	AUSART/I²C/SPI	**LCD Control - 96 segments**
PIC18 – 100 ns Instruction Execution, 77 Instruction, 40 MHz											
PIC18F1320	2	20/18	8/4	256	256	7x10-bit	–	3x16 bit, 2x8 bit	0/1	EUSART	
PIC18F1330	2	20/18	8/4	128	256	4x10-bit	3	2x16 bit	—	EUSART	**Motor Control PWMs**
PIC18F4431	4	44/28	16/8	256	768/512	9x10-bit	–	3x16 bit, 2x8 bit	2/0	EUSART, MI²C/SPI	**Motor Control PWMs**
PIC18F4523	4	44/28	32/16	256	1536/768	13x12-bit	2	3x16 bit, 2x8 bit	1/1	EUSART, MI²C/SPI	
PIC18F4550	6	44/28	32/24/16	256	2048/768	13x10-bit	2	3x16 bit, 2x8 bit	1/1	MI²C/SPI, EUSART	**Full Speed USB 2.0**
PIC18F4620	16	44/28	64/48/32/16	1024	3968/1536	13x10-bit	2	3x16 bit, 2x8 bit	1/1	EUSART, MI²C/SPI	PSP
PIC18F4680	8	44/28	64/48/32/16	1024	3328/1536	11x10-bit	2	3x16 bit, 2x8 bit	1/1	EUSART, MI²C/SPI	**CAN 2.0B**
PIC18F45J10	4	44/28	32/16	–	1024	13x10-bit	2	3x16 bit, 2x8 bit	1/1	2xEUSART, 2xMI²C/SPI	PSP
PIC18F8490	4	80/64	16/8	–	768	12x10-bit	2	3x16 bit, 2x8 bit	2/0	MI²C/SPI, 2 x USART	**LCD: up to 192 segments**
PIC18F8680	4	80/64	64/48	1024	3328	16x10-bit	2	3x16 bit, 2x8 bit	1/1	EUSART, MI²C/SPI	**CAN 2.0B**, EMA
PIC18F8722	12	80/64	128/64/32/16	1024	3936/2048	16x10-bit	2	3x16 bit, 2x8 bit	2/3	2xEUSART, 2xMI²C/SPI	PSP, EMA
PIC18F87J10	10	80/64	128/96/64/ 8/32	–	3936/2048	15x10-bit	2	3x16 bit, 2x8 bit	2/3	2xEUSART, 2xMI²C/SPI	PSP, EMA
PIC18F97J60	9	100/80/64	128/96/64	–	3808/2048	16x10-bit	2	3x16 bit, 2x8 bit	2/3	2xEUSART, 2xMI²C/SPI	**10 BASE-T Ethernet**

16-bit Microcontrollers and Digital Signal Controllers

Pins	Flash Memory (Kbytes)	SRAM Kbytes	Timers 16-bit	Input Capture	Output Comp/PWM	Analog	Communications Serial I/O	Additional Features
PIC24F Family – 16 MIPS, Lowest Cost, General Purpose								
28/44	32-64	8	5	5	5	10-13x 10-bit (500 ksps), 2 comparators	UART w/IrDA® (2), SPI (2), I²C (2)	JTAG, Parallel Master Port (PMP), Real Time Clock Calendar (RTCC)
64-100	64-128	8	5	5	5	16x 10-bit (500 ksps), 2 comparators	UART w/IrDA® (2), SPI (2), I²C (2)	JTAG, Parallel Master Port (PMP), Real Time Clock Calendar (RTCC)
PIC24HJ Family – 40 MIPS, Highest Performance, General Purpose								
64-100	64-256	8-16	9	8	8	User selectable 12-bit A/D (500 ksps) or 10-bit A/D (1.1 Msps), 16 ch.	UART w/IrDA® (2), SPI (2), I²C, CAN (0,1,2)	JTAG, 8 ch. DMA
dsPIC30F Sensor Family – 20, 30 MIPS, Digital Signal Controllers								
18-28	12 or 24	1/2	3	2	2	8/10 ch. 12-bit A/D (200 ksps)	UART (1,2), SPI, I²C	SOIC, PDIP, QFN (6x6 mm) packages
dsPIC30F General Purpose Family – 20, 30 MIPS, Digital Signal Controllers								
40-80	24-144	2-8	3-5	2-8	2-8	13/16 ch. 12-bit A/D (200 ksps)	UART (2), SPI (1,2), I²C, CAN (0,1,2)	Codec Interface - AC97/I²S
dsPIC33F General Purpose Family – 40 MIPS, Digital Signal Controllers								
64-100	64-256	8-30	9	8	8	User selectable 12-bit A/D (500 ksps) or 10-bit A/D (1.1 Msps), 16 ch.	UART (2), SPI (2), I²C (1,2), CAN (0,1,2)	Codec Interface, 8 ch. DMA
dsPIC30F Motor Control and Power Conversion Family – 20, 30 MIPS, Digital Signal Controllers								
28-80	12-144	0.5-8	3, 5	4-8	2-8	6/9/16 ch. 10-bit A/D (1000 ksps)	UART (2), SPI (1,2), I²C, CAN (0,1,2)	Motor control PWMs & Quad Encoder Modules
dsPIC33F Motor Control and Power Conversion Family – 20, 30 MIPS, Digital Signal Controllers								
64-100	64-256	8-30	9	8	8	User selectable 12-bit A/D (500 ksps) or 10-bit A/D (1.1 Msps), 16 ch.	UART (2), SPI (2), I²C (2), CAN (1,2)	Motor control PWMs (8) & Quad Encoder Modules, 8 ch. DMA

Stand-alone Analog and Interface Products

LINEAR PRODUCTS

Operational Amplifiers

Channels	Pins	GBWP	Iq Typical	Operating Volt. Range (V)	Vos	Operating Temp. (°C)
1, 2, 4	5-16	14 kHz-10 MHz	600 nA-1.1 mA	1.4-5.5	150 µV-7 mV	-40 to +125

Family Features: Rail-to-Rail Input/Output **Packages:** PDIP, SOIC, MSOP, TSSOP, SOT-23A, SC-70

Programmable Gain Amplifiers (SPI Controlled, Eight Gain Step 1,2,4,5,8,10,16,32 V/V)

Channels	Pins	GBWP	Iq Typical	Operating Volt. Range (V)	Vos	Operating Temp. (°C)
1, 2, 6, 8	8-16	2-12 MHz	1.1 mA	2.5-5.5	275 µV	-40 to +85

Family Features: Rail-to-Rail Input/Output **Packages:** PDIP, SOIC, MSOP, TSSOP

Comparators

# Per Package	Pins	Propagation Delay	Iq Typical	Operating Volt. Range (V)	Vos	Operating Temp. (°C)
1, 2, 4	5-16	4 µs	1 µA	1.6-5.5	5 mV	-40 to +85

Packages: PDIP, SOIC, MSOP, TSSOP, QSOP, SOT23, SOT-23A

POWER MANAGEMENT PRODUCTS

Low Dropout Linear Regulators (LDO)

Pin Count	Input Volt. Range (V)	Output Volt. Range (V)	Output Current (mA)	Typ. Act. Current (uA)	Typ. Dropout Volt. @ Max Iout (mV)	Typ. Out. Accuracy (%)
3-16	2.7-6.0, 10.0, -10.0	1.2-5.0, -3.0, -5.0, adjustable	50-4000 (depends on ext. transistor)	1.1-230	45-600	±0.4-±2.0

Family Features: Shutdown, Reference bypass input, Error output, PCI compliant, External transistor, Negative/Adjustable/Selectable output voltages
Packages: SC-70, SOT23A, SOT223, SOT89, TO-92, MSOP, QSOP, SOIC, TO220, DDPAK, DFN

Switching Regulators

Step-down Type	Pins	VIN Range	VOUT Range	IOUT Range	Family Options
Regulators	8	2.7-5.5V	0.9-5.0V	500 mA	Synchronous operation, UVLO, LDO mode
Controllers	5	1.8-10V	3.0/3.3/5.0V	1.0-2.0A	Low-power Shutdown mode, soft-start

Step-up Type	Pins	VIN Range	VOUT Range	IOUT Range	Family Options
Regulators	5	0.9-10V	3.0/3.3/5.0V	80-140 mA	Low-power Shutdown mode, feedback voltage sensing
Controllers	5,10	2-10V	3.3/5.0/ext V	0.3A-ext I	Low-power Shutdown mode, soft-start

Charge Pumps

Type	Pins	VIN Range	VOUT Range	IOUT Range	Family Options
Inverting or Doubling	5-8	1.5-18V	-VIN or 2 VIN	20-100 mA	12-750 kHz switching, low-power Shutdown mode
Multi-function	8	2.0-5.5V	+2 VIN or -2 VIN	10 mA	Doubles the positive or negative input voltage
Inverting & Doubling	8	2.4-5.5V	-2 VIN	10 mA	12 kHz oscillator
Regulated	8	2.5-5.5V	-3.5V to +5.5V	20-120 mA	Adjustable/selectable 3.3V/5.0V, 650 kHz or 1 MHz oscillator

CPU/System Supervisors and Voltage Detectors

Typical Trip Voltages (V)	Pin Count	Typical Reset Pulsewidth (ms)	Typical Operating Current (uA)	Operating Volt. Range(V)
System Supervisors:				
10 options between 2.32V-4.85V	3, 4, 8	50-700	6-50	1.0-5.5

Family Features: Crosses to most industry standard supervisors. Active high or active low outputs, push, pull or open drain outputs, manual reset pin, watchdog timer
Packages: SC-70, SOT-23, TO-92, SOT-143, SOIC

Voltage Detectors:				
>20 options between 1.4V-7.7V	3, 5	N/A	1	0.7-10.0

Family Features: Push, pull or open drain outputs. Dual Vdets in one package
Packages: SOT-23, SOT-89, TO-92

Power MOSFET Drivers

Pins	VIN Range	Peak Output Current	Input/Output Delay (ns)	Family Options
8-16	4.5-30V	0.5 to 12A	15-55/30-55	Inverting/non-Inverting, multiple packages, most offered in E/V temperature ranges, rugged contruction

BATTERY MANAGEMENT

Battery Management ICs

Type	Pins	Regulation Accuracy	# of Li-Ion/ Li-Poly Cells	Max Charge Current	Charge Termination Method	Max Oper. Volt. (V)
Linear chargers	5, 8, 10, 16	0.5% & 1%	1 or 2	1.2A	Min. current, safety timers	5.5 to 12

MIXED SIGNAL PRODUCTS

Analog-to-Digital Converters (ADC)

Pins	Resolution	Speed (sps)	Operating Volt. Range (V)	Operating Current	Temp. Range (°C)
5-16	10-22 bits	15 to 200k	2.7-5.5	175-550 µA	-40° to +125

Family Features: Delta-Sigma, SAR, Dual Slope
Packages: SOT-23A, PDIP, SOIC, MSOP, TSSOP, QSOP, CerDIP, PLCC, PQFP

Energy Measurement ICs

Dynamic Range	Typ. Measurement Accuracy	Gain	VREF Drift	Output Type
1000:1	0.1%	1, 2, 8, 16, 32	15 ppm	Active power pulse output

Digital Potentiometers

Pins	Resolution	Resistance	Temp. Range (°C)
5-14	6 or 8 bit	2k to 100 kohm	-40 to +125

Packages: PDIP, SOIC, TSSOP, SOT-23

THERMAL MANAGEMENT PRODUCTS

Temperature Sensors

Type	Pins	Typical Accuracy (°C)	Max Accuracy @ 25°C	Typical Operating Current (uA)	Operating Volt. Range (V)
Analog	3	0.5	2	35	2.5-5.5
Packages: SOT-23					
Digital	5, 8	0.5	1 and 2	250	2.7-5.5
Packages: DFN, MSOP, SOIC, SOT-23, TO-220					
Temp Switch	5, 8	0.5 and 1	3 and 5	17-270	2.7-5.5 and 4.5-18
Packages: MSOP, PDIP, SOIC, SOT-23, TO-220					

Fan Managers and Predictive Failure Detectors

Type	Pins	Integrated Temp. Sensor	Extended Temp. Input	Fan Failure Detection	Operating Volt. Range (V)
Fan Manager	8, 10	X	X	X	2.8 or 3.0 to 5.5
Family Features: FanSense™ technology, auto-shutdown, over-temperature alert **Packages:** MSOP, PDIP, SOIC					
Failure Detector	6	N/A	N/A	X	3.0-5.5
Family Features: Programmable Alert threshold **Packages:** SOT-23					

INTERFACE PRODUCTS

CAN Communications

Type	Pin Count	CAN Version Supported	Temp. Range (°C)	Operating Volt. Range (V)
Stand-alone CAN peripherals	8, 14, 18, 20	2.0B Active	-40 to +125	2.7 to 5.5

Family Features: Includes industry-standard high speed CAN transceivers, CAN input/output expanders and stand-alone CAN controllers with SPI interface
Packages: PDIP, SOIC, TSSOP

Infrared Communications

Type	Pin Count	IrDA® Speed (kbaud)	Temp. Range (°C)	Operating Volt. Range (V)
Stand-alone IR peripherals	8, 14, 18, 20	9.6, 115.2	-40 to +85	2.7 or 3.0 to 5.5

Family Features: Includes IrDA encoder/decoders and IrDA protocol handling devices enabling IrDA communication to be added to embedded systems
Packages: PDIP, SOIC, TSSOP

Ethernet Controller

Type	Pin Count	MAC	PHY	Temp. Range (°C)	Operating Volt. Range (V)
IEEE 802.3 comp.	28	Yes	10BaseT	-40 to +85	3.14-3.45

Family Features: Loopback test modes, auto-polarity detection
Packages: SOIC, SSOP, QFN

LIN Transceiver

Pin Count	LIN Spec	VREG Output Volt. (V)	Max. Baud Rate	Temp. Range (°C)	Operating Volt. Range (V)
8	1.3	4.75-5.25	20 Kbaud	-40 to +125	4.75-5.25

Family Features: Industry-standard pinout, includes integrated voltage regulator
Packages: PDIP, SOIC

Serial Peripherals

Type	Pin Count	Bus Type	Temp. Range (°C)	Operating Volt. Range (V)
8-bit/16-bit port expander	18, 20, 28	I²C, SPI	-40 to +85	2.0-5.5

Family Features: Includes 3 HW address pins, interrupt input and 25 mA sink/source
Packages: PDIP, SOIC, SSOP, QFN

Passive Active Products

Pin Count	Data Format	VREG Output Volt. (V)	RF Carrier Freq.	Temp. Range (°C)	Operating Volt. Range (V)
14	NRZ	4.75-5.25	125 kHz	-40 to +85	1.8-3.6

Family Features: 3 axis signal conditioning devices, smart wake-up filter
Packages: PDIP, SOIC, TSSOP

Serial EEPROMs

Bus/Density	Maximum Bus Speed	Temperature (°C)	Packages							
			8MF	8SM	8SN	ST	8MS	8MC	SOT	Wafer
I²C™ Compatible Interface – 1.8V-5.5V										
128 bit-16K	400 kHz	-40 to +85/+125			X	8	X	X	5	X
32K-64K	400 kHz	-40 to +85/+125	X	X	X	8	X	X		X
128K-256K	1 MHz	-40 to +85/+125	X	X	X	8	X			X
512K	1 MHz	-40 to +85/+125	X	X		14				X
1M	1 MHz	-40 to +85/+125		X						
Microwire Compatible Interface – 1.8V-5.5V										
1K-16K	3 MHz	-40 to +85/+125			X	8	X	X	6	X
SPI Compatible Interface – 1.8V-5.5V										
1K-4K	10 MHz	-40 to +85/+125			X	8	X	X	6	X
8K-16K	10 MHz	-40 to +85/+125			X	8	X			X
32K-64K	3 MHz	-40 to +85/+125			X	8				X
256K	10 MHz	-40 to +85/+125	X	X	X	8				X

Could You Benefit From Low-Risk Product Development and Faster Time to Market?

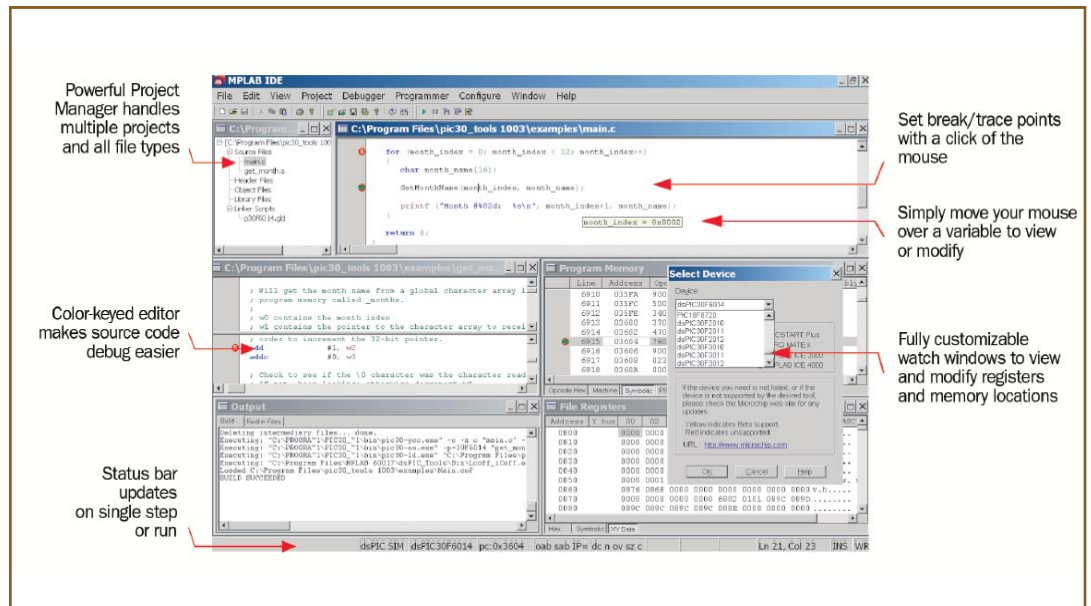## Common Core Tools Can Reduce Development Time And Cost

Competitive market conditions force businesses to examine every aspect of their product life cycle to maximize productivity and minimize expense. Easy-to-learn, low-cost common development tools are one way to reduce risk and time to market.

Microchip offers a full range of microcontroller and DSC development systems, including the no-cost MPLAB Integrated Development Environment; MPLAB ICE In-Circuit Emulator; MPLAB PM3 Universal Device Programmer; MPLAB C Compiler; MPLAB ICD 2 In-Circuit Debugger; PICDEM™ Demonstration Board series; and PICkit™ 2 Flash Starter Kit. The Company also has a suite of tools for development with its analog and memory products. To date, Microchip has shipped over 400,000 development systems worldwide.

In addition, more than 130 third parties offer their own development systems which support Microchip's silicon products.

Common Development Environment

Whether you are designing with the smallest 8-bit PIC microcontroller or a high-performance 16-bit PIC24 microcontroller or a 16-bit dsPIC DSC, all devices share a common development environment. Microchip's MPLAB Integrated Development Environment (IDE) serves as the single, unified graphical user interface for Microchip and third-party software and hardware development tools. Moving between tools, such as the included assembler, linker and visual device initializer, is seamless and upgrading is easy. Start today with the sophisticated MPLAB IDE software by downloading it FREE from the Microchip web site.

MPLAB® IDE Graphical User Interface

Powerful Project Manager handles multiple projects and all file types

Color-keyed editor makes source code debug easier

Status bar updates on single step or run

Set break/trace points with a click of the mouse

Simply move your mouse over a variable to view or modify

Fully customizable watch windows to view and modify registers and memory locations

Analog Development Tools

Engineers can evaluate, demonstrate and develop applications based on Microchip's analog and interface products.

Numerous low-cost development boards and evaluation kits are available for A/D converters, fan controllers, temperature sensors, digital potentiometers, interface devices and more. There are also selection tools for power MOSFET drivers and low dropout regulators at the Microchip web site.

Worldwide Sales and Service

At Microchip, we know that it takes more than product specifications to create loyal customers. In addition to a broad product portfolio, we understand the value of a complete design solution. That's why we maintain a worldwide network of sales and support. Our global network of experienced field application engineers and technical support personnel are ready to provide product and system assistance to help you further streamline your design, prototype and production activities.

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