The Power of a PICmicro® MCU in an 8-pin Package

Microchip Technology continues to provide the electronic industry with innovative products that open a whole universe of applications that are smaller, faster, easier to use and more reliable. The 8-pin PICmicro family of products are used in an extremely wide range of everyday products, from toothbrushes, hair dryers, vacuum cleaners and rice cookers to industrial, automotive and medical products, such as nail guns, brake lights and medical dispensers. The thousands of designers and millions of products using the 8-pin PICmicro MCU’s get the required results.

Many everyday applications are space and weight constrained and system designers traditionally had to rely on application specific integrated circuits (ASIC), or logic circuits to implement even the smallest function in an electronic design. Now, designers can implement the same, or even more functionality into an 8-pin microcontroller that is cost competitive and uses less board space. In addition, the designer gains the flexibility to add new features on a regular basis or adapt the design to changing requirements without hardware changes.

Flexibility to Satisfy a Broad Set of Requirements

With Microchip’s offering of a whole family of 8-pin products, it is easy to find the right product for any application. Microchip offers the flexibility of choosing between various program memory options, such as FLASH, OTP and ROM.

In addition, Microchip also provides the ability to choose between a whole range of features from pure digital products to devices with Analog-to-Digital Converters (ADC), on-board EEPROM, Programmable Low Voltage Detect (PLVD), Brown-out Reset (BOR) and a comparator.

The high performance RISC architecture of the PICmicro MCU enables the system designer to perform the required embedded control functions with ease. Migrating from one product to the other and even into higher pin count devices is no problem, because all the devices are code and pin compatible, which enables designers to reuse existing code. In addition, Microchip’s MPLAB® Integrated Development Environment, emulators and in-circuit debugging capability accelerates the development process to get products into the market faster. Once the product is in production, Microchip’s PICmicro family of products is available and delivered on time.

<table>
<thead>
<tr>
<th>Actual Example Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Charger</td>
</tr>
<tr>
<td>Cattle Monitoring</td>
</tr>
<tr>
<td>Disco Lights</td>
</tr>
<tr>
<td>Dog Training Collar</td>
</tr>
<tr>
<td>Electric Iron</td>
</tr>
<tr>
<td>flashlight for Police Car</td>
</tr>
<tr>
<td>Headlight Warning Buzzer</td>
</tr>
</tbody>
</table>
**8-Pin PICmicro MCU Family**

<table>
<thead>
<tr>
<th>Device</th>
<th>Program Memory</th>
<th>Memory Words</th>
<th>RAM Bytes</th>
<th>EEPROM Bytes</th>
<th>I/O Pins</th>
<th>ADC</th>
<th>Comparator</th>
<th>BOR</th>
<th>Timers</th>
<th>ICSP **</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIC12C508A</td>
<td>768 512x12</td>
<td>25</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12C509A</td>
<td>1536 1024x12</td>
<td>41</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12CE518</td>
<td>768 512x12</td>
<td>25</td>
<td>16</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12CE519</td>
<td>1536 1024x12</td>
<td>41</td>
<td>16</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12C671</td>
<td>1792 1024x14</td>
<td>128</td>
<td>-</td>
<td>6</td>
<td>4x8-bit</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12C672</td>
<td>3584 2048x14</td>
<td>128</td>
<td>-</td>
<td>6</td>
<td>4x8-bit</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12CE673</td>
<td>1792 1024x14</td>
<td>128</td>
<td>16</td>
<td>6</td>
<td>4x8-bit</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12CE674</td>
<td>3584 2048x14</td>
<td>128</td>
<td>16</td>
<td>6</td>
<td>4x8-bit</td>
<td>-</td>
<td>-</td>
<td>1x8-bit, 1-WDT</td>
<td>Yes</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>PIC12F629*</td>
<td>1792 1024x14</td>
<td>64</td>
<td>128</td>
<td>6</td>
<td>-</td>
<td>1</td>
<td>Yes</td>
<td>1x8-bit, 1x16-bit, 1-WDT</td>
<td>Yes</td>
<td>ICD support</td>
<td></td>
</tr>
<tr>
<td>PIC12F675*</td>
<td>1792 1024x14</td>
<td>64</td>
<td>128</td>
<td>6</td>
<td>4x10-bit</td>
<td>1</td>
<td>Yes</td>
<td>1x8-bit, 1x16-bit, 1-WDT</td>
<td>Yes</td>
<td>ICD support</td>
<td></td>
</tr>
</tbody>
</table>

*Contact your local sales office for availability.*

Abbreviation: ADC = Analog-to-Digital Converter  
WDT = Watchdog Timer  
BOR = Brown-out Reset  
ICD = In-circuit Debugger

**Development Tools from Microchip**

- MPLAB® IDE: Integrated Development Environment (IDE) (Hardware/Software Project Manager)
- MPASM™ Assembler: Universal PICmicro macro-assembler
- MPLINK™ Object Linker: Linker/
- MPLIB™ Object Librarian: Librarian
- MPLAB SIM Simulator: Software Simulator
- C Compilers: Sold by third-party vendors (HI-TECH, IAR, CCS)
- MPLAB ICE 2000: Full-featured modular in-circuit emulator
- PICSTART® Plus Programmer: Entry-level development kit with programmer
- PRO MATE® II Device Programmer: Full-featured, modular device programmer
- ICD2: Low cost in-circuit debugger

**Americas**

- Atlanta (770) 640-0034
- Boston (978) 692-3848
- Chicago (630) 285-0071
- Dallas (972) 818-7423
- Dayton (937) 291-1654
- Detroit (248) 538-2250
- Kokomo (765) 864-8360
- Los Angeles (949) 263-1888
- New York (631) 273-5305
- Phoenix (480) 792-7966
- San Jose (408) 436-7950
- Toronto (905) 673-0699

**Asia/ Pacific**

- Australia 61-2-9868-6733
- China - Beijing 86-10-85282100
- China - Chengdu 86-28-6766200
- China - Fuzhou 86-591-7557563
- China - Shanghai 86-21-6275-5700
- China - Shenzhen 86-755-2350361
- Hong Kong 852-2401-1200
- India 91-80-2290061
- Japan 81-45-471-6166
- Korea 82-2-554-7200
- Singapore 65-334-8870

**Europe**

- Denmark 45-4420-9895
- France 33-1-69-53-63-20
- Germany 49-89-627-144-0
- Italy 39-039-65791
- United Kingdom 44 118 921 5869

As of 10/01/01

© 2002 Microchip Technology Inc. All rights reserved. Printed in the U.S.A. 01/02

DS41155B

Information subject to change. The Microchip name and logo, the Microchip logo, PIC, PICmicro, PICSTART, PRO MATE, dsPIC, PICDEM, FilterLab and The Embedded Control Solutions Company are registered trademarks of Microchip Technology Inc. in the U.S.A. and other countries. In-Circuit Serial Programming, ICSP, ICEPIC, microID, MXDEV, MPLIB, MPLINK, MPASM, PICC, and PICDEM.net are trademarks of Microchip Technology Inc. in the U.S.A. and other countries. Total Endurance, ICSP, In-Circuit Serial Programming, MXDEV, microID, FlexROM, fuzzyLAB, MPASM, MPLINK, MPLIB, PICC, PICDEM, PICDEM.net, ICEPIC, Migratable Memory, FanSense, ECONOMONITOR, Select Mode, dsPIC, rPIC and microPort are trademarks of Microchip Technology Inc. in the U.S.A. SQTP is a service mark of Microchip Technology Inc.in the U.S.A. All other trademarks mentioned herein are the property of their respective companies.