Embedded Computing Solutions
Super I/O, Embedded Controllers and I/O Expansion

Extensive portfolio containing industry-leading products with long application life cycles to meet your design needs today and in the future.

Great Products
Embedded and industrial controllers play a significant role in Microchip’s prestigious history in the embedded semiconductor industry. Microchip has over 20 years of experience in proactively supporting the unique industry requirements for embedded computing. Microchip is continuing to develop and invest in embedded and industrial microcontrollers and is committed to supporting these product lines well into the future.

Robust Portfolio
Each product line has an extensive assortment of products, offering different features and supporting specific applications. Varying numbers of fan tachometers, PECI support, GPIO pins and different interfaces are just a handful of the different choices available to meet your specific needs. For a complete list of products, visit www.microchip.com/computing.

Product Longevity
How many times have you had to redesign a board because your device was has been put on your supplier’s End-of-Life list? At Microchip, we’re aware of the problem which is why we are committed to keeping our parts around to support your product needs. In fact, we continue to sell and support many products that were released over 15 years ago.

Product Spotlight

SCH3112/3114/3116
System Controller Hub

<table>
<thead>
<tr>
<th>Function</th>
<th>SCH3112</th>
<th>SCH3114</th>
<th>SCH3116</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPC Bus Interface</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Legacy Functional Blocks(1)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reset Generator</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Serial Ports</td>
<td>2</td>
<td>4</td>
<td>6(2)</td>
</tr>
<tr>
<td>Programmable Clock Output</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IDE/PCI Reset Outputs</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>Power Button/AC Fail Support</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
</tr>
<tr>
<td>GPIOs</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Dedicated GPIOs</td>
<td>16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hardware Monitoring</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Note 1: Legacy blocks include FDC, parallel ports, serial port, KBC and WDT
Note 2: Two of the six serial ports have 4-pin interfaces

Target Applications
- Interactive kiosks
- ATM machines
- Single board computers
- Industrial PCs
- POS terminals

Highlights
- Industrial Temperature-Rated System Controller Hub (SCH)
  - Operating temperature range: −40 to +85°C
  - Commercial temperature range also available: 0 to +70°C
- Cost-Effective Solution for Multi-UART Applications
  - Available in pin-compatible 2-UART, 4-UART and 6-UART options
  - Eliminates the need for two SIO devices or SIO plus discrete UART chips
  - Supports data rates to 1.5 Mbps and RS485 Auto Direction Control Mode
- High Thermal and Voltage Monitoring Accuracy Levels
  - 1.5°C accuracy on thermal monitoring
  - Reset generator 5V threshold: 4.45V, tolerance ±150 mV
  - Reset generator 3.3, 3.3 VTR threshold: 2.8V, tolerance ±100 mV
### Featured Products

#### Desktop and Super I/O

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>SCH3112-NU</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>40</td>
<td>–</td>
<td>32 byte</td>
<td>2</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>State Machine</td>
<td>3</td>
<td>3</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>128-pin VTQFP</td>
<td>✓</td>
</tr>
<tr>
<td>SCH3114-NU</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>40</td>
<td>–</td>
<td>32 byte</td>
<td>2</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>State Machine</td>
<td>3</td>
<td>3</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>128-pin VTQFP</td>
<td>✓</td>
</tr>
<tr>
<td>SCH3116-NU</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>40</td>
<td>–</td>
<td>32 byte</td>
<td>2</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>State Machine</td>
<td>3</td>
<td>3</td>
<td>✓</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>128-pin VTQFP</td>
<td>✓</td>
</tr>
<tr>
<td>SCH5027E-NW</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>25</td>
<td>–</td>
<td>32 byte</td>
<td>2</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>State Machine</td>
<td>5</td>
<td>6</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>128-pin QFP</td>
<td>–</td>
</tr>
<tr>
<td>SCH5147-NW</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>29</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>8</td>
<td>–</td>
<td>–</td>
<td>State Machine</td>
<td>3</td>
<td>3</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>128-pin QFP</td>
<td>–</td>
</tr>
<tr>
<td>SCH5627-NW</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>60</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>5</td>
<td>–</td>
<td>–</td>
<td>μController</td>
<td>4</td>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>128-pin QFP</td>
<td>–</td>
</tr>
<tr>
<td>SCH5627P-NW</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>60</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>5</td>
<td>–</td>
<td>–</td>
<td>μController</td>
<td>4</td>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>128-pin QFP</td>
<td>–</td>
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<tr>
<td>SCH5636-NW</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>60</td>
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<td>–</td>
<td>4</td>
<td>5</td>
<td>–</td>
<td>–</td>
<td>μController</td>
<td>4</td>
<td>4</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>–</td>
<td>128-pin QFP</td>
<td>–</td>
</tr>
</tbody>
</table>

Additional products can be found at [www.microchip.com/computing](http://www.microchip.com/computing).

Microchip’s Super I/O combines legacy functions (serial port, parallel ports, and PS/2) with hardware monitoring and GPIO to reduce the number of chips required in product design, allowing for more cost-effective industrial application.

#### Embedded and Keyboard Controllers

<table>
<thead>
<tr>
<th>Device</th>
<th>EC Core</th>
<th>Flash Memory</th>
<th>SRAM</th>
<th>EEPROM</th>
<th>LPC</th>
<th>SMBus Controller</th>
<th>BC-Link</th>
<th>PECI</th>
<th>AMD/TSI</th>
<th>ADC</th>
<th>PWM</th>
<th>Temp. Sensor</th>
<th>Fan Tachs</th>
<th>Fan Control</th>
<th>Keyscan and PS/2</th>
<th>JTAG</th>
<th>Package</th>
<th>Industrial Temp. Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEC1310</td>
<td>8-bit</td>
<td>–</td>
<td>64 KB</td>
<td>–</td>
<td>✓</td>
<td>3</td>
<td>1</td>
<td>2.0</td>
<td>✓</td>
<td>10-bit/5 ch.</td>
<td>4</td>
<td>2</td>
<td>–</td>
<td>Set and Forget</td>
<td>–</td>
<td>–</td>
<td>128-pin VTQFP</td>
<td>–</td>
</tr>
<tr>
<td>MEC1318</td>
<td>8-bit</td>
<td>–</td>
<td>96 KB</td>
<td>–</td>
<td>✓</td>
<td>3</td>
<td>1</td>
<td>3.0</td>
<td>✓</td>
<td>10-bit/5 ch.</td>
<td>4</td>
<td>2</td>
<td>–</td>
<td>Set and Forget</td>
<td>–</td>
<td>132-pin DQFN</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>MEC1609</td>
<td>32-bit</td>
<td>192 KB</td>
<td>16 KB</td>
<td>–</td>
<td>✓</td>
<td>3</td>
<td>3</td>
<td>2.0</td>
<td>✓</td>
<td>10-bit/16 ch.</td>
<td>8</td>
<td>4</td>
<td>–</td>
<td>FW</td>
<td>✓</td>
<td>✓</td>
<td>144-pin LFBGA</td>
<td>✓</td>
</tr>
<tr>
<td>MEC1618</td>
<td>32-bit</td>
<td>192 KB</td>
<td>16 KB</td>
<td>1 KB</td>
<td>✓</td>
<td>3</td>
<td>2</td>
<td>3.0</td>
<td>✓</td>
<td>10-bit/16 ch.</td>
<td>8</td>
<td>6</td>
<td>–</td>
<td>FW</td>
<td>✓</td>
<td>✓</td>
<td>156-pin LFBGA</td>
<td>✓</td>
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<tr>
<td>MEC1619</td>
<td>32-bit</td>
<td>192 KB</td>
<td>16 KB</td>
<td>1 KB</td>
<td>✓</td>
<td>3</td>
<td>2</td>
<td>3.0</td>
<td>✓</td>
<td>10-bit/16 ch.</td>
<td>8</td>
<td>6</td>
<td>–</td>
<td>FW</td>
<td>✓</td>
<td>✓</td>
<td>156-pin LFBGA</td>
<td>✓</td>
</tr>
</tbody>
</table>

Additional products can be found at [www.microchip.com/computing](http://www.microchip.com/computing).

Microchip is a leading provider of high-performance, feature-rich mobile embedded controllers built on years of expertise serving many of the world’s leading PC OEMs. Each product has broad range of functions for easy implementation and flexible application.

### I/O Expansion and Legacy I/O

<table>
<thead>
<tr>
<th>Device</th>
<th>Host Interface</th>
<th>GPIO</th>
<th>Keyboard Scan Matrix</th>
<th>PS/2 Ports</th>
<th>Serial Ports</th>
<th>Parallel Ports</th>
<th>X-Bus</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE1088</td>
<td>SMBus or BC-Link</td>
<td>20</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>28-pin VQFN</td>
</tr>
<tr>
<td>ECE1099</td>
<td>SMBus or BC-Link</td>
<td>32</td>
<td>23 × 8</td>
<td>–</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>40-pin VQFN</td>
</tr>
<tr>
<td>ECE1105</td>
<td>SMBus or BC-Link</td>
<td>40</td>
<td>23 × 8</td>
<td>2</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>48-pin VQFN</td>
</tr>
<tr>
<td>LPC47N217</td>
<td>LPC</td>
<td>13</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>1</td>
<td>–</td>
<td>64-pin STQFP</td>
</tr>
<tr>
<td>SIO1007</td>
<td>LPC</td>
<td>16</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>64-pin STQFP</td>
</tr>
<tr>
<td>SIO1028</td>
<td>LPC</td>
<td>24</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>–</td>
<td>–</td>
<td>64-pin QFN</td>
</tr>
<tr>
<td>SIO10N268</td>
<td>LPC or ISA</td>
<td>33</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>1</td>
<td>✓</td>
<td>128-pin LQFP</td>
</tr>
</tbody>
</table>

Additional products can be found at [www.microchip.com/computing](http://www.microchip.com/computing).

With up to 101 input-output pins in a single device, the I/O Expansion and Legacy I/O devices can be integrated into a variety of systems, allowing you to creatively implement a variety of solutions with a single, flexible product.
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Microchip is committed to supporting its customers in developing products faster and more efficiently. We maintain a worldwide network of field applications engineers and technical support ready to provide product and system assistance. In addition, the following service areas are available at www.microchip.com:
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