



Embedded Computing Solutions

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



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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, PECL 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 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

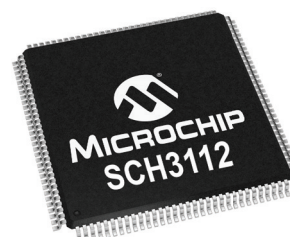
SCH3112/3114/3116 System Controller Hub

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

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

Device	Serial Ports	8042 KBC PS/2 Interface	Parallel Port	GPIO	SMBus Interface	Watchdog Timer	Security Key Register	Remote Thermal Diode Inputs	Voltage Monitor	Fan Control Engine	PWM	Tach	PECI Support	PCH Temp. Monitoring	Intruder Detection	Resume Reset	Customer Programmable RAM	Deep Sleep SS	Package	Industrial Temp. Option
SCH3112-NU	2	2	1	40	–	✓	32 byte	2	7	State Machine	3	3	–	✓	–	–	–	–	128-pin VTQFP	✓
SCH3114-NU	4	2	1	40	–	✓	32 byte	2	7	State Machine	3	3	–	✓	–	–	–	–	128-pin VTQFP	✓
SCH3116-NU	6	2	1	40	–	✓	32 byte	2	7	State Machine	3	3	–	✓	–	–	–	–	128-pin VTQFP	✓
SCH5027E-NW	2	2	1	25	1	✓	32 byte	2	7	State Machine	5	6	✓	–	✓	✓	–	–	128-pin QFP	–
SCH5147-NW	2	2	1	29	–	✓	–	2	8	State Machine	3	3	✓	–	✓	✓	–	–	128-pin QFP	–
SCH5627-NW	2	2	1	60	2	–	–	4	5	µController	4	4	✓	✓	–	✓	–	–	128-pin QFP	–
SCH5627P-NW	2	2	1	60	2	–	–	4	5	µController	4	4	✓	✓	–	✓	–	✓	128-pin QFP	–
SCH5636-NW	2	2	1	60	2	–	–	4	5	µController	4	4	✓	✓	–	✓	✓	–	128-pin QFP	–

Additional products can be found at 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

Device	EC Core	Flash Memory	SRAM	EEPROM	LPC	SMBus Controller	BC-Link	PECI	AMD TSI	ADC	PWM	Temp. Sensor	Fan Tachs	Fan Control	Keyscan and PS/2	JTAG	Package	Industrial Temp. Option
MEC1310	8-bit 8051	–	64 KB	–	✓	3	1	2.0	✓	10-bit/5 ch.	4	–	2	Set and Forget	✓	–	128-pin VTQFP	–
MEC1318	8-bit 8051	–	96 KB	–	✓	3	1	3.0	✓	10-bit/5 ch.	4	✓	2	Set and Forget	✓	–	132-pin DQFN	–
MEC1609	32-bit ARC	192 KB	16 KB	–	✓	3	3	2.0	✓	10-bit/16 ch.	8	–	4	FW	✓	✓	144-pin LFBGA	✓
MEC1618	32-bit ARC	192 KB	16 KB	1 KB	✓	3	2	3.0	✓	10-bit/16 ch.	8	–	6	FW	✓	✓	156-pin LFBGA	✓
MEC1619	32-bit ARC	192 KB	16 KB	1 KB	✓	3	2	3.0	✓	10-bit/16 ch.	8	✓	6	FW	✓	✓	156-pin LFBGA	✓

Additional products can be found at 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

Device	Host Interface	GPIO	Keyboard Scan Matrix	PS/2 Ports	Serial Ports	Parallel Ports	X-Bus	Package
ECE1088	SMBus or BC-Link	20	–	–	0	–	–	28-pin VQFN
ECE1099	SMBus or BC-Link	32	23 × 8	–	0	–	–	40-pin VQFN
ECE1105	SMBus or BC-Link	40	23 × 8	2	0	–	–	48-pin VQFN
LCP47N217	LPC	13	–	–	1	1	–	64-pin STQFP
SI01007	LPC	16	–	–	1	–	–	64-pin STQFP
SI01028	LPC	24	–	–	3	–	–	64-pin QFN
SI010N268	LPC or ISA	33	–	–	4	1	✓	128-pin LQFP

Additional products can be found at 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.

Support

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:

- **Support** link provides a way to get questions answered fast: <http://support.microchip.com>
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Training

If additional training interests you, then Microchip can help. We continue to expand our technical training options, offering a growing list of courses and in-depth curriculum locally, as well as significant online resources – whenever you want to use them.

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DS00001829A



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