SCH322X Family of Super I/O Controllers

Feature-Rich and Flexible Family of I/O Controllers Customized for Industrial and Embedded Computing Designers

Summary

The SCH322X family of feature-rich and flexible I/O controllers is customized to meet the needs of industrial and embedded computing designers. This next-generation product family features smaller packages and long product life cycles, and allows for more cost-effective industrial and embedded applications. The SCH322X is available in both commercial and industrial operating temperature versions. These products are super I/O controllers with an LPC interface and include an 8042 keyboard controller, hardware monitoring capabilities, reset generation, enhanced security features, power control logic, motherboard glue logic and multiple serial ports.

SCH322X Super I/O Family

- Six devices tailored for ultimate flexibility
- Feature rich: different feature sets combine serial ports, parallel port and PS/2
- Flexible: General Purpose Input/Output (GPIO) capability
- World class: temperature and voltage monitoring

Smaller Packages

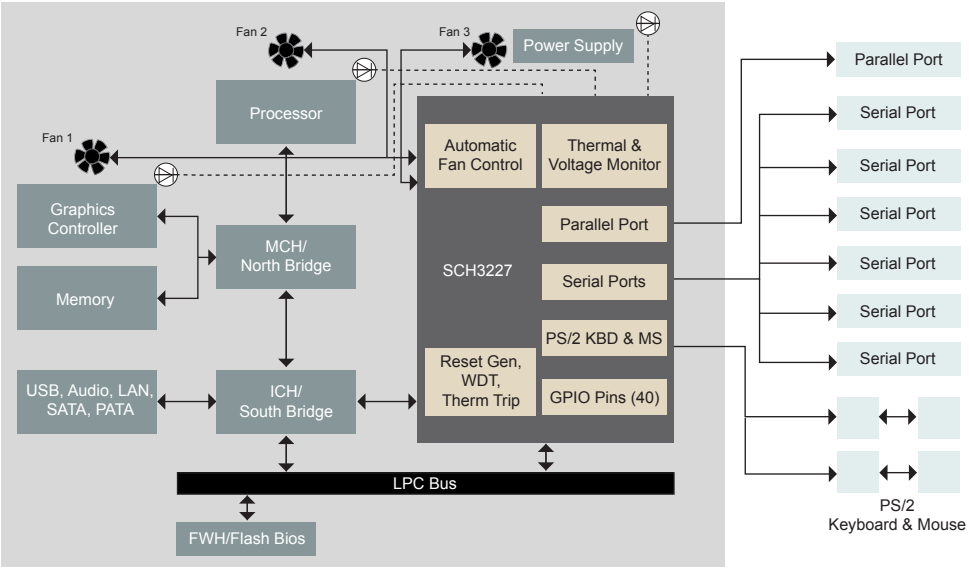
- Combines multiple I/O functions into a single package
- Variety of area-efficient BGA packages to enable compact board design

Long Life Cycles

- Life cycles optimized for industrial and embedded computing applications
- Helps manage innovation risk over the entire life cycle

Features

- Combines legacy functions
  - Serial ports
  - Parallel port
  - PS/2
- Hardware monitoring
  - Temperature sensors
  - Low power options
  - Fan speed control
- GPIOs serve as:
  - I/O ports
  - Interrupt steering inputs
  - Power LED output
  - Infrared I/O pins



System Controller Hub Application Diagram

MICROCHIP

SCH322X Product Family

	SCH3221	SCH3222	SCH3223	SCH3224	SCH3226	SCH3227
Operating Temperature	0 to +70°C –40 to +85°C	0 to +70°C –40 to +85°C	0 to +70°C –40 to +85°C	0 to +70°C –40 to +85°C	0 to +70°C –40 to +85°C	0 to +70°C –40 to +85°C
Package	6 × 6 mm, 64-ball WFBGA, pitch - see note 1	7 × 7 mm, 84-ball WFBGA, 0.65 mm pitch	6 × 6 mm, 64-ball WFBGA, pitch - see note 1	8 × 8 mm, 100-ball WFBGA, 0.65 mm pitch	8 × 8 mm, 100-ball WFBGA, 0.65 mm pitch	9 × 9 mm, 144-ball WFBGA, 0.65 mm pitch
LPC Bus Interface	✓	✓	✓	✓	✓	✓
Watchdog Timer	✓	✓	✓	✓	✓	✓
Keyboard Controller	–	✓	–	✓	✓	✓
Parallel Port	–	–	–	✓	–	✓
Reset Generator	–	✓	✓	✓	✓	✓
Serial Ports, Full	4	4	2	2	4	4
Serial Ports, 4-pin	0	2	0	2	2 (by strap option)	2 (by strap option)
Programmable Clock Output	–	✓	–	✓	✓	✓
IDE/PCI Resets Outputs	–	–	✓	–	By strap option (vs 4-pin serial ports)	By strap option (vs 4-pin serial ports)
Power Button/AC Fall Support	–	–	✓	–	By strap option (vs 4-pin serial ports)	By strap option (vs 4-pin serial ports)
GPIOs (max)	33	23	19	24	40	40
GPIO with VID Compatible Inputs	0	6	2	0	6	6
Hardware Monitor (HWM) Voltages	–	–	✓	✓	✓	✓
Security Key Register	–	✓	✓	✓	✓	✓
HWM Fan Control Engine	–	–	✓	✓	✓	✓
HWM Temp. Monitoring	–	–	✓	✓	✓	✓
HWM PWM/Tach Pairs	0	0	1	3	3	3
Infrared Port IRDA 1.0	✓	✓	–	✓	✓	✓

Note 1: Ball pitch is 0.50 mm with a sparse ball arrangement to allow 0.65 m trace routing rules to be used.

Applications

- Industrial
  - Automation, printers, information kiosks, POS terminals, ATMs
- Embedded computer
  - Single-board computer, industrial PC, PC/104
- Computing
  - Set-top boxes, thin clients

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www.microchip.com/computing

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