EPSON

S1S60000

Intelligent Network Controller for Embedded System

■ DESCRIPTION

S1S60000, featured with the built-in protocol processing functions, is an intelligent network controller for embedded equipment. Simplified commands and data from a host MPU enables S1S60000 to establish TCP/IP communication thanks to its capability of internally processing protocols for TCP/IP connection including ARP, ICMP, IP, TCP and UDP. MII (Media Independent Interface) is employed for interfacing the physical layer. Just adding PHY chip designed for MII allows you to realize 10BASE-T/100BASE-TX equipment operable on networks. S1S60000 is one of the network controllers best suited for converting your 8/16 bits MPU-featured equipment to ones workable on network without resorting to a high performance OS or protocol stacks available in the market.

8/16 bits parallel interface is employed for connection with the host MPU. It enables to establish direct connection with certain types of CPUs without using additional logic circuits. There is no trouble in using it on equipment not provided with a general-purpose bus or external bus such as PCI and ISA.

■ FEATURES

- ●Realizes network connection with simple command operations.
- ●Eliminates license costs thanks to the unique protocol stack.
- ●General purpose I/O pins and I^2C bus allows simpler hardware control without resorting to a host MPU.
- ●Allows adding or changing the protocols used through rewriting of the Flash ROM.

■ SPECIFICATIONS

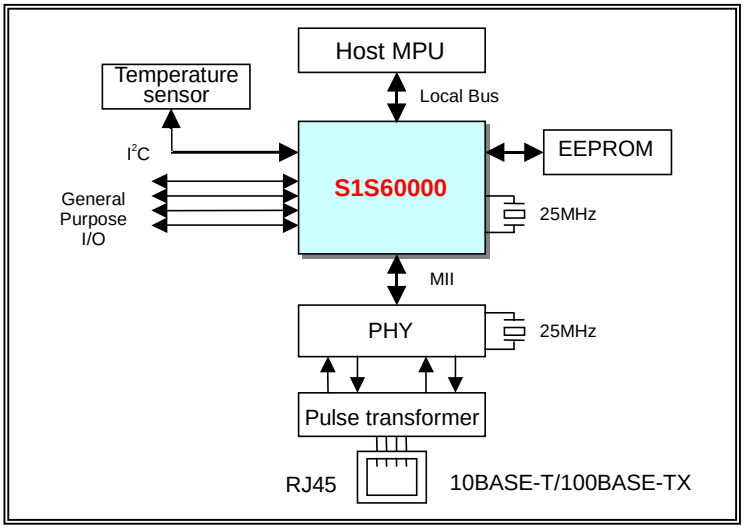
●Protocol supported	ARP, ICMP, IP, TCP, UDP, HTTP, DHCP, TFTP and SNMP(PPP and IPv6: Under study) Rewriting the built-in Flash ROM enables to add or change a protocol to be used.
●Interface for physical layer	Complied with the Media Independent Interface (IEEE802.3 Clause22)
●Host interface	8/16 bits parallel (5V input acceptable)
●Host command system	ESC/Net (Epson Standard Code for Network)
●Directly connectable MPU (*1) (*1:8/16bit connection)	SH-3/4, MC68000, MC68030, Philips PR31500/PR31700 and Toshiba TX3912. Includes Epson S1C33, NEC VR4121, PC Card (PCMCIA) and ISA.
●Endian	Switching between little and big is possible.
●General purpose I/O	16 in total (Directly controllable from the network or host interface. Two of them are used for interrupt.)
●EEPROM interface	3-wire interface compatible with 93C46/56 (40 words are used by S1S60000. Remaining is usable by user.)
●I^2C bus	Master/Slave (supports the Fast mode, multi-master and 10-bit address)
●Core CPU	EPSON S1C33240 50MHz
●Built-in Flash ROM	128KB
●Power supply	+3.3V / 150mA(Max.)
●Package	QFP15-100pin

■ YOU'LL FIND S1S60000 HELPFUL, FOR INSTANCE, IN THE FOLLOWING SITUATIONS:

- Equipment's memory or storage is limited to run Windows or Linux. However, expanding the capacity requires too much cost.
  - ➢ S1S60000 does not require an additional memory or storage device.
- I want to exchange data on Ethernet with the similar easiness as RS-232C is used.
  - ➢ When S1S60000 is used, what you do is just sending simplified commands and data. No troublesome processing is needed.

- A protocol stack obtained from the market becomes inoperable if the currently used CPU is replaced with another model.
  - S1S60000 remains usable with another CPU with the minimum software modifications.
- Number of ports is not enough for serial connection. I would like to connect more equipment without troublesome operations.
- I would like to replace the current expensive private network with a more generic Ethernet.
  - Ethernet allows you to expand number of connecting equipment by use of a hub or router available in the market. It also allows you to use a variety of less expensive equipment.

■ EXAMPLES OF USE OF S1S60000



■ APPLICATION EXAMPLES

Measuring instruments, monitor cameras, data collectors, network connectable home appliances and embedded equipment.

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Стандарт Электрон Связь

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