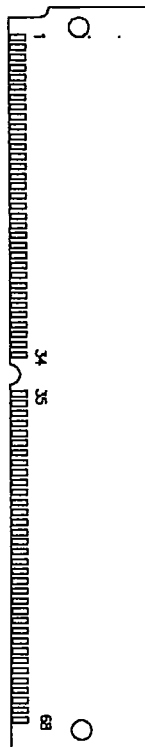


DALLAS
SEMICONDUCTOR
DS2251
128K Micro Stik

FEATURES

- Up to 128K of nonvolatile SRAM onboard for program and data memory
- Byte-wide address and data bus leaves port pins available
- Three peripheral enables memory map external devices onto the byte-wide bus
- Reprogrammable peripheral controller (RPC mode) emulates 8042 for PC bus applications
- Optional DS1283 Watchdog TimeKeeper Chip allows wakeup from Stop mode (DS2251T)
- Flexible program loading from serial port or RPC mode peripheral bus
- Based on the DS5001FP Micro Chip
- 100% compatible with 8051 instruction set
- 68-pin SIMM connection scheme

PIN DESCRIPTION



68-Pin SIP Stik

DESCRIPTION

The DS2251 128K Micro Stik is a complete 8051-compatible microcontroller system, based on the enhanced DS5001FP 128K Micro Chip, in an extremely small form factor. The DS2251 supports all of the improved features that the DS5001FP offers over its DS5000 Soft Microcontroller predecessor, including expanded memory and I/O.

The DS2251 incorporates up to 128K bytes of nonvolatile RAM onboard, accessed by the DS5001FP's embedded address and data bus. The embedded bus is pinned out on the SIP edge connector as well as the four 8051-compatible ports. Additional I/O circuits can also be memory mapped onto the embedded bus by using the three peripheral enable signals. Four 8-bit ports remain available for other applications.

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The Reprogrammable Peripheral Controller mode (RPC) brings the benefits of up to 128K nonvolatile RAM to the design of intelligent and flexible peripheral controllers through hardware emulation of the popular 8042 slave interface.

A permanently powered timekeeping feature that is the functional equivalent of the DS1286 Watchdog Timekeeper is incorporated into the DS2251T. This real time clock is driven by an internal quartz crystal and keeps time to a hundredth of a second. In addition, the date is automatically adjusted at the end of the month, including those months with less than 31 days. Leap year compensation is also performed automatically. Access to the timekeeping function is

performed entirely on the DS5001FP's embedded address and data bus. As a result, none of the valuable I/O port resources are consumed in the interface. The timekeeper allows the processor to be reset at a pre-determined time via a user-programmable alarm. In this way, the processor can remain in an ultra-low power state until the wakeup time. A second interrupt which occurs at a user-defined periodic interval of up to 99 seconds is also available.

The DS2251 is designed to provide 10 years of timekeeping and data retention in its NV RAM, in the absence of V_{cc} . In addition, a user-programmable freshness seal is available to shut down lithium backup when it is not required.

ORDERING INFORMATION

Standard Configurations

DS2251 08-08	128K Micro Stik	8K RAM 8 MHz
DS2251 32-12	128K Micro Stik	32K RAM 12 MHz
DS2251T 32-12	128K Micro Stik	32K RAM 12 MHz with Real Time Clock
DS2251T 64-12	128K Micro Stik	64K RAM 12 MHz with Real Time Clock
DS2251T 128-16	128K Micro Stik	128K RAM 16 MHz with Real Time Clock

Other versions are available by special order.

BLOCK DIAGRAM Figure 1

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DS2251(T)
128K MICRO STIK

