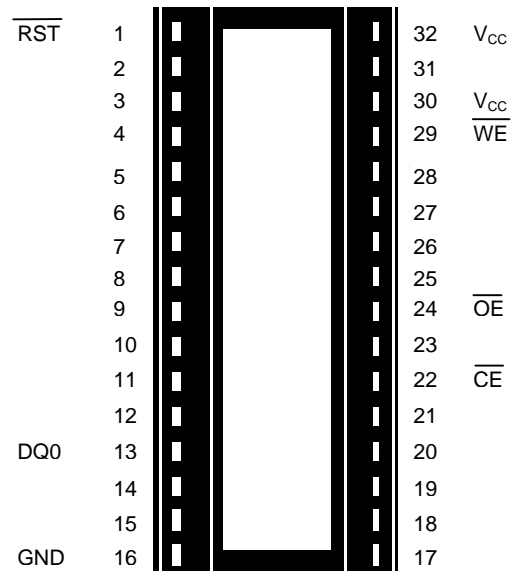


FEATURES

- Converts standard 8K x 8, 32K x 8, and 512K x 8 CMOS static RAMs into nonvolatile memory
- Embedded lithium energy cell maintains watch information and retains RAM data
- Watch function is transparent to memory operation
- Keeps track of hundredths of seconds, seconds, minutes, hours, days, date of the month, months, and years
- Month and year determine the number of days in each month; leap year compensation valid up to 2100
- Lithium energy source is electrically disconnected to retain freshness until power is applied for the first time
- Proven gas-tight socket contacts
- Full $\pm 10\%$ operating range
- Operating temperature range 0°C to 70°C
- Accuracy is better than ± 1 minute/month @ 25°C

PIN ASSIGNMENT



32-Pin Intelligent Socket

PIN DESCRIPTION

All pins pass through except 22, 30 and 32.

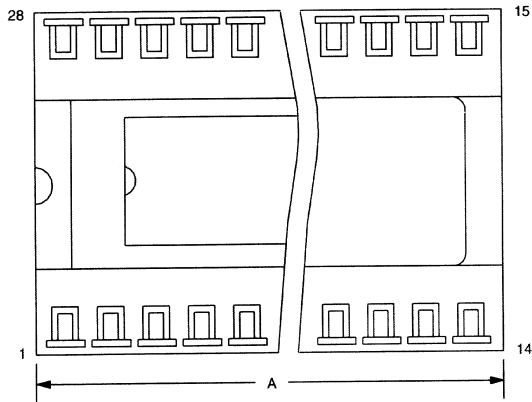
- Pin 1 $\overline{\text{RST}}$ - RESET
- Pin 13 DQ0 - Data Input/Output 0
- Pin 16 GND - Ground
- Pin 22 $\overline{\text{CE}}$ - Conditioned Chip Enable
- Pin 24 $\overline{\text{OE}}$ - Output Enable
- Pin 29 $\overline{\text{WE}}$ - Write Enable
- Pin 30 V_{CC} - Switched VCC for 28-pin RAM
- Pin 32 V_{CC} - Switched VCC for 32-pin RAM

DESCRIPTION

The DS1216D SmartWatch/RAM 256K/1M is a 32-pin, 600-mil wide DIP socket with a built-in CMOS watch function, a nonvolatile RAM controller circuit, and an embedded lithium energy source. It accepts either an 8K x 8, 32K x 8, 128K x 8, or 512K x 8 JEDEC byte-wide CMOS static RAM. When the socket is mated with a CMOS SRAM, it provides a complete solution to problems associated with memory volatility and uses a common energy source to maintain time and date. A key feature of the SmartWatch is that the watch function remains transparent to the RAM.

See the DS1216B SmartWatch/RAM 16/64K data sheet for technical details.

DS1216D SMARTWATCH



| PKG | 28-PIN | | 32-PIN | |
|-------|--------|-------|--------|-------|
| DIM | MIN | MAX | MIN | MAX |
| A IN. | 1.390 | 1.420 | 1.580 | 1.620 |
| MM | 35.31 | 36.07 | 40.13 | 41.14 |
| B IN. | 0.690 | 0.720 | 0.690 | 0.720 |
| MM | 17.53 | 18.29 | 17.53 | 18.29 |
| C IN. | 0.420 | 0.470 | 0.400 | 0.470 |
| MM | 10.67 | 11.94 | 10.16 | 11.94 |
| D IN. | 0.035 | 0.065 | 0.035 | 0.065 |
| MM | 0.89 | 1.65 | 0.89 | 1.65 |
| E IN. | 0.055 | 0.075 | 0.055 | 0.075 |
| MM | 1.39 | 1.90 | 1.39 | 1.90 |
| F IN. | 0.120 | 0.160 | 0.120 | 0.160 |
| MM | 3.04 | 4.06 | 3.04 | 4.06 |
| G IN. | 0.090 | 0.110 | 0.090 | 0.110 |
| MM | 2.29 | 2.79 | 2.29 | 2.79 |
| H IN. | 0.590 | 0.630 | 0.590 | 0.630 |
| MM | 14.99 | 16.00 | 14.99 | 16.00 |
| J IN. | 0.008 | 0.012 | 0.008 | 0.012 |
| MM | 0.20 | 0.30 | 0.20 | 0.30 |
| K IN. | 0.015 | 0.021 | 0.015 | 0.021 |
| MM | 0.38 | 0.53 | 0.38 | 0.53 |
| L IN. | 0.380 | 0.420 | 0.380 | 0.420 |
| MM | 9.65 | 10.67 | 9.65 | 10.67 |

