



# DS1216C

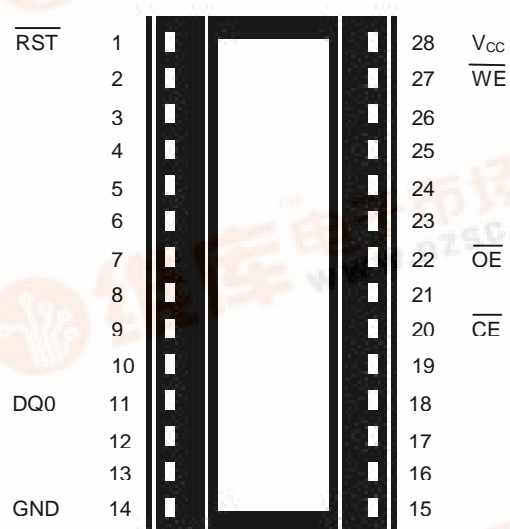
## SmartWatch/RAM 64K/256K

www.dalsemi.com

### FEATURES

- Keeps track of hundredths of seconds, seconds, minutes, hours, days, date of the month, months, and years
- Converts standard 8K x 8 and 32K x 8 CMOS static RAMs into nonvolatile memory
- Embedded lithium energy cell maintains watch information and retains RAM data
- Watch function is transparent to RAM operation
- 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  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$
- Accuracy is better than  $\pm 1$  minute/month @  $25^{\circ}\text{C}$

### PIN ASSIGNMENT



28-Pin Intelligent Socket

### PIN DESCRIPTION

Pin 1	$\overline{\text{RST}}$	- RESET
Pin 11	DQ0	- Data Input/Output 0
Pin 14	GND	- Ground
Pin 20	$\overline{\text{CE}}$	- Conditioned Chip Enable
Pin 22	$\overline{\text{OE}}$	- Output Enable
Pin 27	$\overline{\text{WE}}$	- Write Enable
Pin 28	$\text{V}_{\text{CC}}$	- Switched $\text{V}_{\text{CC}}$

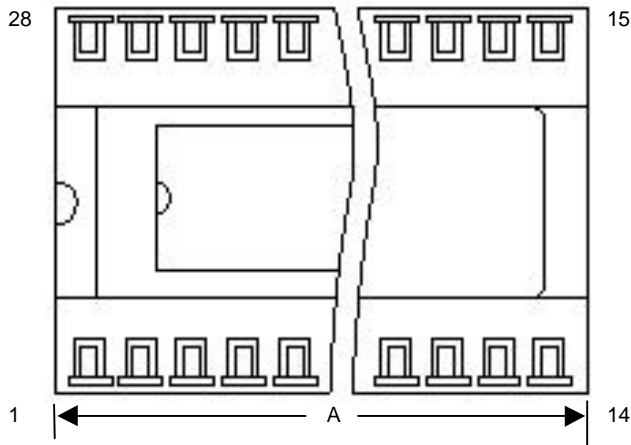
### DESCRIPTION

The DS1216C SmartWatch/RAM is a 28-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 or a 32K 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.



**DS1216C SMARTWATCH**



PKG DIM	28-PIN		32-PIN	
	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

