### S1C17 Family 16-bit microcontrollers

#### World realized by low power consumption of the S1C17W Series

**Case of Digital Watch**

Conditions: Continuous LCD watch display using LR44 battery (1.5 V)

- **Epson Conventional**
- **S1C17W00 Series**

* More than 10 Yrs.

* Calculated in 32kHz RUN mode for 10m per second

#### Case of Pedometer

Conditions: LCD display and acceleration sensing for several hours per day using the CR2032 battery (3V)

- **Epson Conventional**
- **S1C17W00 Series**

* More than 12 Mons.

* Calculated in 2MHz RUN mode for 1 hour per day

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#### S1C17W Series Products overview

<table>
<thead>
<tr>
<th>Products</th>
<th>Display</th>
<th>Operation clock</th>
<th>Supply voltage (V)</th>
<th>Power supply</th>
<th>Memory</th>
<th>I/O Port</th>
<th>Temperature</th>
<th>Package</th>
<th>Chip</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S1C17W00 series</strong></td>
<td>LCD drive sequence</td>
<td>High-speed (16 MHz)</td>
<td>Low-speed (12 MHz)</td>
<td>Built-in Oscillator</td>
<td>Sleep</td>
<td>12MHz Operating [Hz]</td>
<td>Supply voltage (V)</td>
<td>Flash ROM [Kbyte]</td>
<td>RAM [Kbyte]</td>
</tr>
<tr>
<td><strong>S1C17W03</strong></td>
<td>4.2M 32.768k</td>
<td>32kHz/50kHz/30kHz</td>
<td>20kHz/40kHz</td>
<td>25kHz/45kHz/200kHz</td>
<td>0.15</td>
<td>0.3</td>
<td>2</td>
<td>250</td>
<td>1.2 to 3.6</td>
</tr>
<tr>
<td><strong>S1C17W04</strong></td>
<td>4.2M 32.768k</td>
<td>32kHz/50kHz/30kHz</td>
<td>20kHz/40kHz</td>
<td>25kHz/45kHz/200kHz</td>
<td>0.15</td>
<td>0.3</td>
<td>2</td>
<td>250</td>
<td>1.2 to 3.6</td>
</tr>
<tr>
<td><strong>S1C17W00 series</strong></td>
<td>LCD drive sequence</td>
<td>High-speed (16 MHz)</td>
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<td>Sleep</td>
<td>12MHz Operating [Hz]</td>
<td>Supply voltage (V)</td>
<td>Flash ROM [Kbyte]</td>
<td>RAM [Kbyte]</td>
</tr>
<tr>
<td><strong>S1C17W05</strong></td>
<td>4.2M 32.768k</td>
<td>32kHz/50kHz/30kHz</td>
<td>20kHz/40kHz</td>
<td>25kHz/45kHz/200kHz</td>
<td>0.15</td>
<td>0.3</td>
<td>3</td>
<td>250</td>
<td>1.2 to 3.6</td>
</tr>
<tr>
<td><strong>S1C17W06</strong></td>
<td>4.2M 32.768k</td>
<td>32kHz/50kHz/30kHz</td>
<td>20kHz/40kHz</td>
<td>25kHz/45kHz/200kHz</td>
<td>0.15</td>
<td>0.3</td>
<td>4</td>
<td>250</td>
<td>1.2 to 3.6</td>
</tr>
<tr>
<td><strong>S1C17W07</strong></td>
<td>4.2M 32.768k</td>
<td>32kHz/50kHz/30kHz</td>
<td>20kHz/40kHz</td>
<td>25kHz/45kHz/200kHz</td>
<td>0.15</td>
<td>0.3</td>
<td>4</td>
<td>250</td>
<td>1.2 to 3.6</td>
</tr>
</tbody>
</table>

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#### S1C17W Series Application examples

Example of an application using the S1C17W13: Remote controller

- **S1C17W Series**

- **S1C17W00 Series**

- **S1C17W01 Series**

- **S1C17W02 Series**

- **S1C17W03 Series**

- **S1C17W04 Series**

- **S1C17W05 Series**

- **S1C17W06 Series**

- **S1C17W07 Series**

---

**More than 12 Mons.**

**Mon.** 3 Mon. 6 Mon. 9 Mon. 12 Mon. 15 Mon.

4: SVD is an abbreviation for Supply Voltage Detector.

5: Independent operation for each channel.

6: During erasing / programming in flash memory (V DD): 2.7V to 3.6V, 1.8V to 3.6V during external applying VPP=7.5V/7.5V (Typ.)

7: External voltage application mode only.

8: Including Input port and Output port.

9: 16-bit timer

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**Examples of an application using the S1C17W13: Remote controller**

- **Remote controller**

- **Infrared LED**

- **Battery detection**

- **Residual quantity**

- **Thermistor**

- **Oscillation circuit**

- **R/F converter**

- **SVD**

- **I2C**

- **SPI**

- **QSPI**

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**Infrared LED**

**Thermistor**

**Oscillation circuit**

**R/F converter**

**SVD**

**I2C**

**SPI**

**QSPI**
S1C17 Family 16-bit microcontrollers

S1C17M Series Application examples

Example of an application using the S1C17M11: Electricity meter

S1C17M11
S1C17 CORE
12-Bit ADC
LCD Driver
Power Switch
DTCIO
Audio Gain
SPI/FC/I2C/UART
GPIO
LCD Panel
34seg x 4com

S1C17 Family 16-bit microcontrollers

S1C17M Series Function introduction

Example of 7 seg LED lighting up using the S1C17M12/M13

Other company’s MCU

S1C17M12/M13
LED Controller

Reduction of 5 transistors and 5 resistors
## S1C17 Family 16-bit microcontrollers

### S1C17 Long-running Series

<table>
<thead>
<tr>
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<th>Operation clock</th>
<th>Supply current</th>
<th>Power supply</th>
<th>Memory</th>
<th>I/O</th>
<th>Time</th>
<th>Analog</th>
<th>Others</th>
<th>Form of delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1C17F50</td>
<td>–</td>
<td>4.2MHz</td>
<td>30.76kHz</td>
<td>1.8 to 3.6V</td>
<td>–</td>
<td>64K</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>S1C17F57</td>
<td>–</td>
<td>4.2MHz</td>
<td>30.76kHz</td>
<td>1.8 to 3.6V</td>
<td>–</td>
<td>64K</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

- **Display**: No display is supported. **Chip**: 36.DIP-36

### S1C17 Family 16-bit microcontrollers

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</tr>
</thead>
<tbody>
<tr>
<td>MCUs</td>
<td>–</td>
<td>4.2MHz</td>
<td>30.76kHz</td>
<td>1.8 to 3.6V</td>
<td>–</td>
<td>64K</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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</table>

- **Display**: No display is supported. **Chip**: 36.DIP-36

### Notes

- **MCUs**: The S1C17 Family 16-bit microcontrollers are a series of microcontrollers designed for a variety of applications, featuring high-speed processing capabilities and a wide range of analog and digital peripherals.
- **Power supply**: The microcontrollers support a variety of power supply voltages, from 1.8V to 5.5V, allowing them to be used in a wide range of environments.
- **Memory**: The series includes devices with different amounts of Flash ROM, RAM, and other memory types, providing flexibility for various application needs.
- **I/O**: The microcontrollers offer a variety of I/O options, including input/output ports, timers, and clocks, among others.

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**Further information**

- **Supporting documentation**: Detailed datasheets and application notes are available for each model, providing comprehensive information on features, specifications, and usage examples.
- **Customer support**: Technical support is available for any questions or issues related to the usage of these microcontrollers.
- **Community resources**: Online forums and community resources can be valuable for learning and troubleshooting.

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This document provides an overview of the S1C17 Family 16-bit microcontrollers, highlighting their key features and applications.