

# PS1000 Residential Power Meter SOC

The PS1000 is a highly integrated SOC designed for modern residential power meter applications. All essential blocks of multi-function meter including: RTC, Flash, LCD driver, Temperature sensor, Communication ports, and Power management are integrated together to provide a low cost high performance solution. The high SNR ADC with the built-in Auto Gain Control mechanism performs very wide range current measurement with the accuracy better than Class 0.5.

Maximum design flexibility is supported with powerful DSP-MCU core, up to 3 channels UART, and rich peripherals. The reference design is also provided to enable rapid developments.



## Features

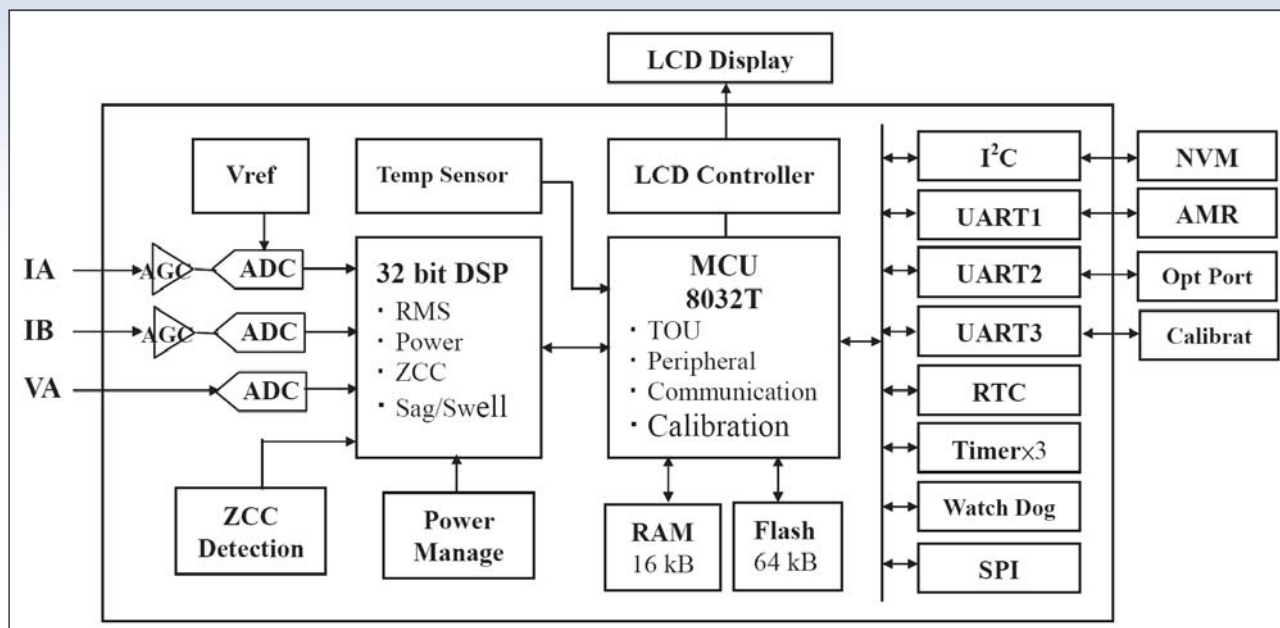
- **< 0.1% Wh accuracy over 2000:1 range.**
- **Exceeds IEC61036/IEC62053/ANSI C12.20 standard**
- **3 high accuracy Sigma - delta ADC with SNR > 80 dB**
  - 2 ch 16-bit ADC with AGC for current input (1x/2x/4x/8x)
  - 1 ch 16-bit ADC for voltage input
- **DSP-MCU dual core with 8051 compatible programming**
  - 8032T high performance MCU
  - Built-in 32-bit hardware DSP core
- **LCD driver (up to 160 pixels)**
- **64 kB Flash**
- **16 kB RAM**
- **3 Timers + Watchdog timer**
- **3 UARTs for AMR and calibration**
- **RTC for time of use functions**
- **I<sup>2</sup>C interface**
- **SPI interface**
- **Up to 16 general purpose I/O pins**
- **Built-in internal temperature sensor with 10-bit ADC**
- **Built-in energy management for the power outage meter reading**
- **128-lead LQFP package**



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# PS1000 Block Diagram



## Typical Application

