



## ADE5569 Single Phase Energy Measurement IC with 8052 MCU, RTC, and LCD Driver

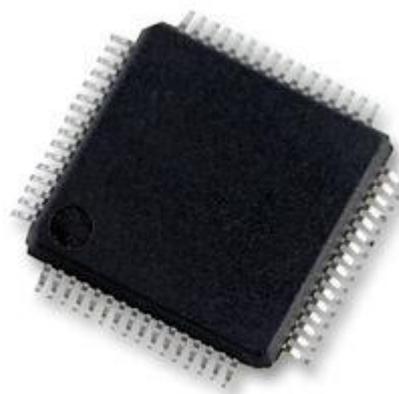
### General Description:

The ADE5166/ADE5169/ADE5566/ADE5569 integrate the Analog Devices, Inc., energy (ADE) metering IC analog front end and fixed function DSP solution with an enhanced 8052 MCU core, a full RTC, an LCD driver, and all the peripherals to make an electronic energy meter with an LCD display in a single part.

The ADE measurement core includes active, reactive, and apparent energy calculations, as well as voltage and current rms measurements. This information is accessible for energy billing by using the built-in energy scalars. Many power line supervisory features such as SAG, peak, and zero crossing are included in the energy measurement DSP to simplify energy meter design.

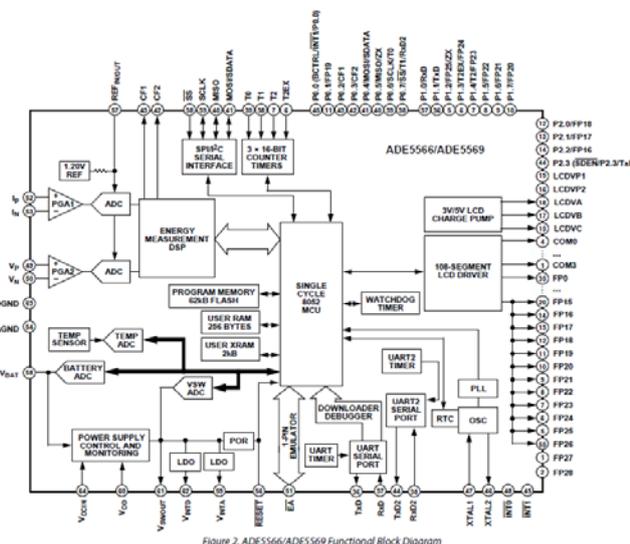
The microprocessor functionality includes a single-cycle 8052 core, a full RTC with a power supply backup pin, an SPI or I2C interface, and two independent UART interfaces. The ready-to-use information from the ADE core reduces the requirement for program memory size, making it easy to integrate complicated design into 62 kB of flash memory.

The ADE5166/ADE5169 include a 104-segment LCD driver and the ADE5566/ADE5569 include a 108-segment LCD driver, each with the capability to store up to four LCD screens in memory. This driver generates voltages capable of driving LCDs up to 5 V.



### Key Features:

- Wide supply voltage operation: 2.4 V to 3.7 V
- Internal bipolar switch between regulated and battery inputs
- Ultralow power operation with power saving modes (PSM)
- Full operation: 4.4 mA to 1.6 mA (PLL clock dependent)
- Battery mode: 3.3 mA to 400  $\mu$ A (PLL clock dependent)



- Sleep mode: Real-time clock
- (RTC) mode: 1.7  $\mu$ A RTC and LCD mode: 38  $\mu$ A (LCD charge pump enabled)
- Reference: 1.2 V  $\pm$  0.1% (10 ppm/ $^{\circ}$ C drift)
- 64-lead, low profile quad flat, RoHS-compliant package (LQFP)
- Operating temperature range:  $-40^{\circ}$ C to  $+85^{\circ}$ C

## Applications:

- The ADE5566/ADE5569 include a 108-segment LCD driver
- Each with the capability to store up to four LCD screens in memory
- This driver generates voltages capable of driving LCDs up to 5 V
- The ready-to-use information from the ADE core reduces the requirement for program memory size
- Easy to integrate complicated design into 62 kB of flash memory

## Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
ADE5569ASTZF62	1827325	05R6529	Single Phase Energy Measurement IC with 8052 MCU, RTC, and LCD Driver-64-pin LQFP package