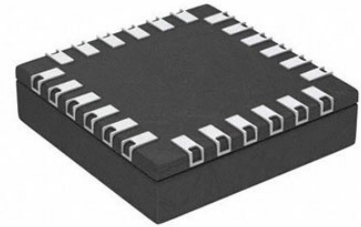


Polyphase Energy Metering, SPI, 2.7 V to 3.63 V supply, LFCSP-40

Manufacturers	Analog Devices, Inc
Package/Case	40-WFQFN, CSP
Product Type	Data Conversion ICs
RoHS	Pb-free Halide free
Lifecycle	



Images are for reference only

Please submit RFQ for ADE9078ACPZ or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ADE9078 is a highly accurate, fully integrated energy metering device. Interfacing with both current transformer (CT) and Rogowski coil sensors, the ADE9078 enables users to develop a 3-phase metrology platform, which achieves high performance for Class 1 up to Class 0.2 meters.

The ADE9078 integrates seven high performances ADCs and a flexible DSP core. An integrated high end reference ensures low drift over temperature with a combined drift of less than ± 25 ppm/ $^{\circ}$ C maximum per channel, each of which includes a programmable gain amplifier (PGA) and ADC.

The ADE9078 offers an integrated flexible waveform buffer that stores samples at a fixed data rate or a sampling rate that varies based on line frequency to ensure 64 points per line cycle. These two options make it easy to implement harmonic analysis in an external processor according to IEC 61000-4-7.

Two power modes are provided to enable detection of meter tampering: PSM2 uses a low power comparator to compare current channels to a threshold and indicates whether it is exceeded on the IRQ0 and IRQ1 outputs; PSM1 enables fast measurement of current and voltage rms (xV_{RMS} and xI_{RMS}), active power, and VAR during a tamper.

The ADE9078 allows advanced and highly accurate energy measurements, enabling one platform to cover a wide range of meters, through a combination of various high end metrology features and superior analog performance.

Features

7 high performance analog-to-digital converters (ADCs)

101 dB signal-to-noise ratio (SNR)

10,000:1 dynamic range

Wide input range: ± 1 V, 0.707 V rms full scale

Differential inputs

Power quality measurements

Line frequency: 1 measurement per phase

Zero crossing detection, zero-crossing timeout

Phase angle measurements

Supports current transformers (CTs) and Rogowski coil (di/dt) sensors

Multiple range phase/gain compensation for CTs

Digital integrator for Rogowski coils

Flexible waveform buffer

Able to resample waveform to ensure 64 points per line cycle for ease of external harmonic analysis

Events can trigger waveform storage

Simplifies data collection for IEC 61000-4-7 harmonic analysis

Advanced metrology feature set

Total active power, volt-amperes reactive (VAR), volt-amperes (VA), watthour, VAR-hour, and VA-hour

Fundamental VAR and VAR-hour

Current and voltage rms per phase (xIRMS, xVRMS)

Supports active energy standards: IEC 62053-21, IEC 62053-22; EN50470-3; OIML R46, ANSI C12.20

Supports reactive energy standards: IEC 62053-23, IEC 62053-4

High speed communication port

10 MHz serial peripheral interface (SPI)

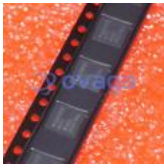
Application

Polyphase meters

Power quality monitoring

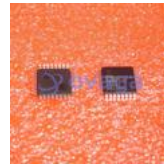
Protective device

Related Products



[ADAS3022BCPZ](#)

Analog Devices, Inc
LFCSP-40



[AD7266BSUZ](#)

Analog Devices, Inc
TQFP-32



[AD574AJNZ](#)

Analog Devices, Inc
PDIP-28



[AD7401YRWZ](#)

Analog Devices, Inc
SOIC-16



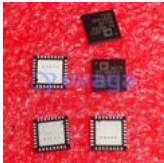
[AD7938BSUZ](#)

Analog Devices, Inc
TQFP-32



[AD7192BRUZ-REEL](#)

Analog Devices, Inc
TSSOP-24



[AD7124-8BCPZ-RL7](#)

Analog Devices, Inc
LFCSP-32



[AD9680BCPZ-500](#)

Analog Devices, Inc
LFCSP-64