

JXA6681AME

16-Bit, 8-Channel, 200KSPS SAR Simultaneous-Sampling ADC

Pin-to-Pin Compatible with AD7606

200 KSPS ADC Rate	16 Bit Resolution	8 (simultaneous sampling) Channels	>90 dB SNR (typ.)
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Product Overview

The JXA6681AME is a 16-bit, 8-channel simultaneously sampling SAR ADC with 200KSPS per channel. Integrating analog input clamp protection, second-order anti-aliasing filters, and a high-precision voltage reference, it is a classic solution for power systems, industrial measurement, and multi-channel data acquisition. The SAR architecture provides zero latency and no pipeline delay, ideal for closed-loop control applications.

Key Features

- 16-bit resolution, 8-channel simultaneous sampling
- 200 KSPS per channel, SAR architecture (zero latency)
- True bipolar input: $\pm 5V$ / $\pm 10V$, 1 M Ω high-impedance input
- On-chip 2nd-order anti-aliasing analog filter
- Input overvoltage clamp protection, $\pm 16.5V$ tolerance
- Parallel / SPI interface, software driver compatible with AD7606
- Pin-to-pin 100% compatible with AD7606 — direct drop-in replacement
- <280 mW typical, 64-pin LQFP, -40°C to +85°C

Key Specifications

Parameter	Value
Resolution	16 Bit
Number of Channels	8 (simultaneous sampling)
Sample Rate (per channel)	200 KSPS
ADC Architecture	SAR (Successive Approximation)
SNR (typical)	>90 dB
THD (typical)	<-100 dB
Analog Input Range	±5V / ±10V (true bipolar)
Input Impedance	1 MΩ (high-impedance input)
Overvoltage Protection	Clamp protection, ±16.5V tolerance
On-Chip Filter	2nd-order anti-aliasing analog filter
Interface	Parallel / SPI
Supply Voltage	Analog 5V / Digital 2.3V–5V
Power Consumption	<280 mW (typical)
Operating Temperature	-40°C to +85°C
Package	64-Pin LQFP
Lead Time	~6 Weeks

Applications

- Power Systems — Relay protection, power quality monitoring, fault recording
 - Industrial Measurement — Multi-channel data acquisition, PLC analog input modules
 - Medical Equipment — Multi-parameter monitors, ECG machines
 - Industrial Automation — Motion control, servo drives, robotics
- Data Acquisition Cards — USB/PCIe/PXI acquisition modules
 - Battery Testing — Multi-channel battery charge/discharge testing
 - Environmental Monitoring — Multi-channel sensor signal acquisition
 - Audio Processing — Multi-channel audio capture, effects processors

Ordering Information

Attribute	Details
Part Number	JXA6681AME
Package	64-Pin LQFP
Temperature Range	-40°C to +85°C
Compatible Device	AD7606 (pin-to-pin, 100% compatible)