SXA040

24-Bit, 8-Channel, 144 kSPS A/D Converter

24 位八通道 144kSPS A/D 转换器

24-bit | 8 channels | 144 kSPS | LQFP64 | Serial CMOS
24 位 | 八通道 | 144kSPS | LQFP64 | 串行 CMOS

对标 / Cross Reference: ADS1278 — pin-to-pin compatible alternative

Parameter Brief / 参数版

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Product Overview

The SXA040 is a 24-bit sigma-delta analog-to-digital converter with a maximum sampling rate of 144 kSPS, sampling all eight channels simultaneously. An internal high-order chopper-stabilized modulator achieves low temperature drift and low in-band noise, and an integrated decimation filter suppresses modulator and out-of-band noise, providing usable signal bandwidth up to 90% of the Nyquist rate. Four operating modes — high-speed, high-resolution, low-power and low-speed — trade off speed, resolution and power, and all modes are selected by pin strapping with no register programming required. The device offers a typical SNR of 101 dB and an INL of ±4 ppm of FSR, operates from 5 V, 3.3 V and 1.8 V supplies, and is rated for −40 °C to +85 °C in an LQFP64 package.

产品概述

SXA040 是一款 24 位 Σ-Δ 型模数转换器，最高采样率为 144 kSPS，可同时对八个通道进行采样。产品内部包含高阶斩波稳定的调制器，实现了低温度漂移和低带内噪声；集成抽取滤波器抑制调制器和信号带外噪声，可提供高达奈奎斯特速率 90% 的可用信号带宽。产品提供高速、高分辨率、低功率和低速四种工作模式，可用来调节速度、分辨率和功率，所有工作模式均由引脚直接控制，不需要使用寄存器编程。其信噪比典型值为 101 dB，积分非线性误差为 ±4 ppm FSR，采用 5 V、3.3 V 与 1.8 V 供电，工作温度范围为 −40 °C～+85 °C，采用 LQFP64 封装。

Key Parameters / 关键参数

Parameter / 参数	Value / 数值
Resolution 分辨率	24-bit / 24 位
Channels 通道数	8
Conversion rate 转换速率	144 kSPS
Power consumption (typ.) 典型功耗	600 mW
Supply voltages 工作电压	5 V, 3.3 V, 1.8 V
Analog input range 模拟输入电压范围	±2.5 V
INL (typ.) 积分非线性误差（典型值）	±4 ppm of FSR
SNR (typ.) 信噪比（典型值）	101 dB
Interface 接口形式	Serial CMOS / 串行 CMOS
Package 封装形式	LQFP64

Notes / 说明

This document is a Parameter Brief. The parameters listed here are compiled from the Shenxin Tech product handbook (2026.8 edition) and summarize the key specifications of the device; it is not a full datasheet. Full technical documentation (pin configuration, timing, registers and application information) is available on request — please contact our FAE team.

本文档为参数版（Parameter Brief）。所列参数摘自深信科技产品手册（2026.8 版），仅汇总器件的关键规格，不作为完整规格书使用。完整技术资料（引脚定义、时序、寄存器与应用信息）请联系 FAE 索取。

完整技术资料请联系 FAE 索取 / Full technical documentation available on request.

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