



XE3003

Low-Power Audio ADC

General Description

The XE3003 is an ultra low-power ADC (Analog to Digital Converter) for voice and audio applications.

It includes a microphone supply, programmable preamplifier, 16-bit ADC, Serial Peripheral Interface (SPI), serial audio interface (PCM) as well as the power and clock management for the ADC. The sampling frequency of the ADC can be adjusted from 4 kHz to 48 kHz.

Applications

- Wireless Microphones
- Bluetooth™ headset
- Hands-free telephony
- Digital hearing instruments
- Consumer and multimedia applications
- All battery-operated portable audio devices

Features

- Ultra low-power consumption, below 2 mW
- Low-voltage operation down to 1.8 V
- Single supply voltage
- Adjustable sampling frequency: 4 – 48 kHz
- Digital format: 16 bit 2s complement
- Only a minimum of external components
- Easy interfacing to various DSPs
- Direct connection to microphone
- Various programming options

Quick Reference Data

- Supply voltage range 1.8- 3.6 V
- Typ. current (@3V and fs = 20 kHz) 0.24 mA
- Sampling frequency range 4– 48 kHz
- Typical dynamic range ADC 78 dB
- Typ. power supply rejection 60 dB

Ordering Information

Part	Package	Temperature range
XE3003	TSSOP 16 pins	-20 to 70° C