ChipCorder®
TECHNOLOGY BY ISD

ISD33060/075/090/120-4 Products

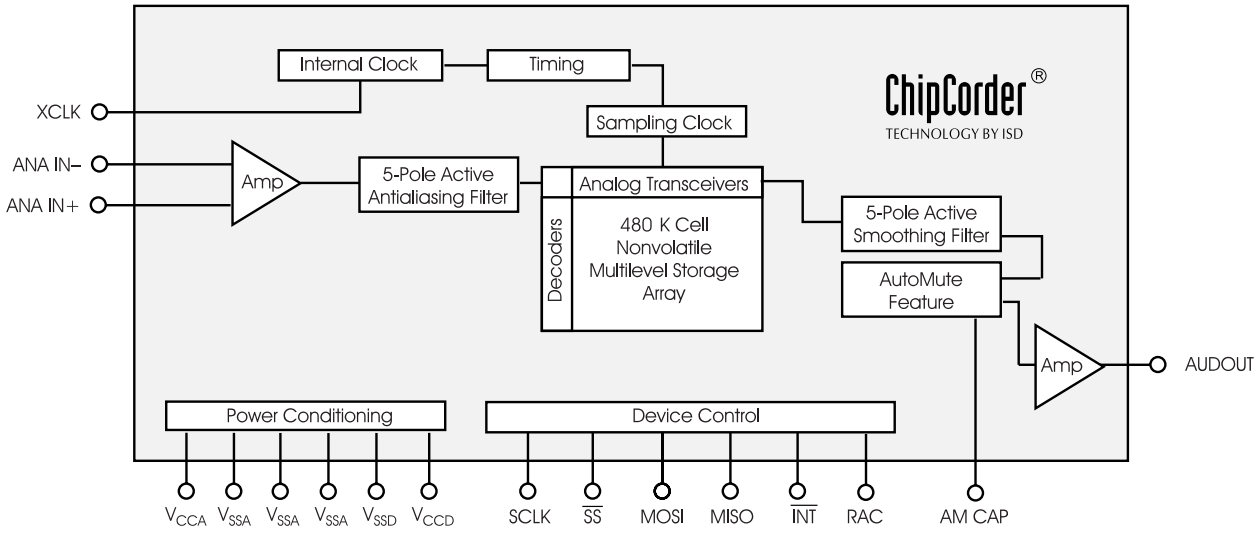
Single-Chip Voice Record/Playback Devices
60-, 75-, 90-, and 120-Second Durations

GENERAL DESCRIPTION

The ISD33060/075/090/120-4 ChipCorder® Products provide high-quality, 3-volt, single-chip record/playback solutions for 1- to 2-minute messaging applications which are ideal for cellular phones and other portable products. The CMOS devices include an on-chip oscillator, antialiasing filter, smoothing filter, AutoMute™ feature, audio amplifier, and high density, multilevel storage array. The ISD33000 series is designed to be used in a microprocessor- or microcontroller-based system. Address and control are accomplished through a Serial Peripheral Interface (SPI) or Microwire Serial Interface to minimize pin count.

Recordings are stored in on-chip nonvolatile memory cells, providing zero-power message storage. This unique, single-chip solution is made possible through ISD's patented multilevel storage technology. Voice and audio signals are stored directly into memory in their natural form, providing high-quality, solid-state voice reproduction.

Figure: ISD33060/075/090/120-4 Block Diagram



FEATURES

- Single-chip voice record/playback solution
- Single +3 volt supply
- Low-power consumption
  - Operating current:
    I_{CC} Play = 25 mA (typical)
    I_{CC} Rec = 30 mA (typical)
  - Standby current: 1 µA (typical)
- Single-chip durations of 60, 75, 90, and 120 seconds
- High-quality, natural voice/audio reproduction
- AutoMute™ feature provides background noise attenuation during periods of silence
- No algorithm development required
- Microcontroller SPI or Microwire™ Serial Interface
- Fully addressable to handle multiple messages
- Nonvolatile message storage
- Power consumption controlled by SPI or Microwire control register
- 100-year message retention (typical)
- 100,000 record cycles (typical)
- On-chip clock source
- Available in die form, PDIP, SOIC, and TSOP packaging
- Extended temperature (–20°C to +70°C) and industrial temperature (–40°C to +85°C) versions available

Table: ISD33060/075/090/120-4 Product Summary

Part Number	Duration	Input Sample Rate (KHz)	Typical Filter Pass Band (KHz)
ISD33060	60 Sec.	8.0	3.4
ISD33075	75 Sec.	6.4	2.7
ISD33090	90 Sec.	5.3	2.3
ISD33120-4	2.0 Min.	4.0	1.7

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