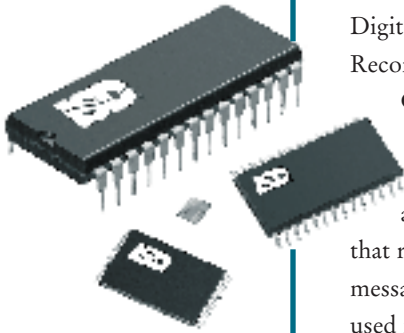# ISD MicroTAD

Single-Chip Voice Record/Playback Device
16-Minute Duration

The MicroTAD® ChipCorder® product provides high quality, low power, single-chip record/playback solutions for 16-minute messaging applications such as Telephone Answering Devices (TAD), Personal Digital Assistants (PDA) and Personal Digital Recorders (PDR) and PBX applications. The CMOS-based devices include an on-chip oscillator, anti-aliasing filter, smoothing filter, AutoMute® feature, audio amplifier and high-density multilevel Flash storage array that requires battery power to record and playback messages. The MicroTAD product 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 non-volatile 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.

ISD MicroTAD CAN BE USED IN VARIOUS APPLICATIONS:

- Telephone Answering Devices (TAD)
- Personal Digital Assistants (PDA)
- Portable Digital Recorders (PDR)
- PBX/voicemail

FEATURES

- No A/C power adapter or battery back up is required
- ONLY battery power required to operate
- No codecs required
- No external memory required
- Single-chip voice record/playback solution
- Low-power consumption
- Operating current:
  I_{CC} Play = 15mA (typical)
  I_{CC} Rec = 25mA (typical)
- Standby current 1 µA (typical)
- Single-chip 16-minute duration
- High quality, natural voice/audio reproduction
- AutoMute feature provides background noise attenuation during periods of silence
- No speech compression algorithm development required

- Microcontroller Serial Peripheral Interface (SPI) or Microwire serial interface
- Fully addressable to handle multiple messages
- Non-volatile message storage
- Power consumption controlled by SPI or Microwire control register
- Team with caller ID and µC, enables caller ID announce and multiple, customized outgoing messages (OGM) for specific incoming calls
- Cascade for longer durations
- 100-year message retention (typical)
- 100K record cycles (typical)
- On-chip clock source
- Available in die form, PDIP, SOIC and TSOP packaging

ISD MicroTAD BLOCK DIAGRAM
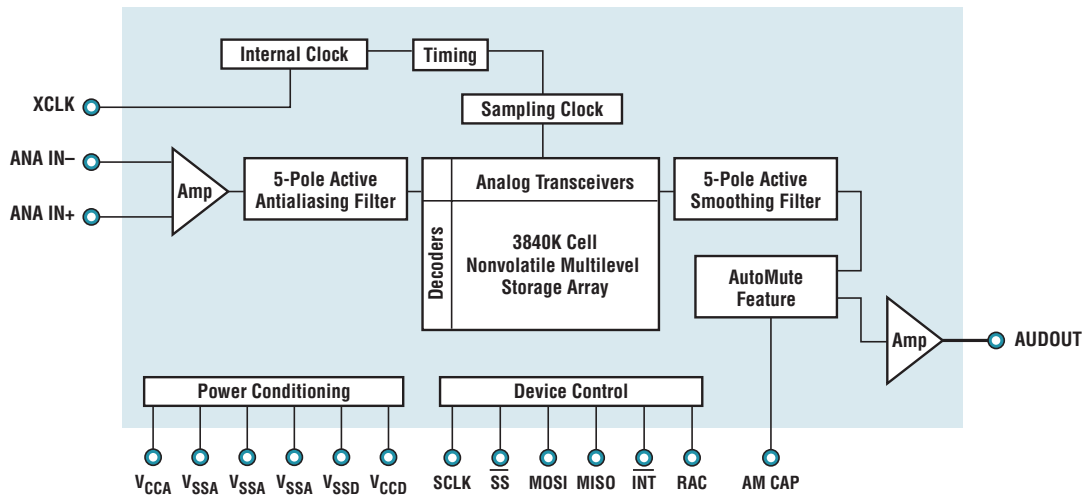
ISD MicroTAD PRODUCT PORTFOLIO

	DURATION	DENSITY (k cells)	INPUT SAMPLE RATE (KHz)
ISD MicroTAD-16M	16 minutes	3840	4.0

ISD MicroTAD PRODUCT PACKAGE AND TEMPERATURE AVAILABILITY

	ISD MicroTAD			
	TSOP	PDIP	SOIC	DIE
Commercial Die/Consumer Packaged (0° to +50°)	●	●	●	●

ORDERING THE ISD MicroTAD PRODUCTS

ISD MicroTAD-16M_

Package Type

E = 28 Lead 8 × 14.4mm TSOP
P = 28 Lead 0.600-inch PDIP
S = 28 Lead 0.300-inch SOIC
X = Die

ISO9001 CERTIFIED

ISD, ChipCorder, MicroTAD and AutoMute are registered trademarks of ISD. All other trademarks are properties of their respective owners.
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ISD
A Winbond Company

To Order Products or More Information:

ADDRESS
2727 N. First Street
San Jose, CA 95134

PHONE
1-800-677-0769 (US Only)
408-943-6666
408-544-1786 (Fax)

WEBSITE
www.isd.com

e-mail
info@isd.com