

# DALLAS

SEMICONDUCTOR

## DS2132/Q

### Digital Answering Machine Processor

#### FEATURES

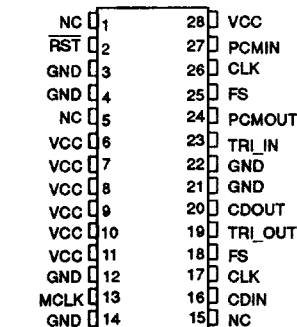
- Two high quality speech compression algorithms permit either 7 or 14 minutes of speech storage in a single 4 Mbit DRAM
- Economical three-wire data/control/status port frees up microcontroller port pins.
- Detects and generates the 12 standard DTMF tones plus the A/B/C/D tones.
- Detects CCITT T.30 FAX calling tone (1100 Hz)
- Generates musical tones which allow "melodies-on-hold" or customizable prompts
- Echo cancellation for improved DTMF receiver performance
- Precise signal level detection capability
- Record/Playback gain control
- 28-pin DIP or PLCC (DS2132Q) packages

#### DESCRIPTION

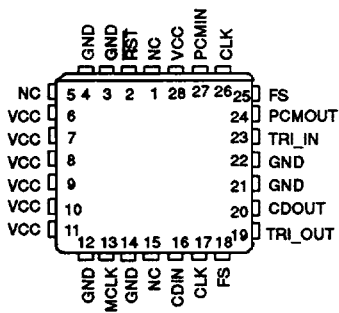
The DS2132 Digital Answering Machine Processor is a Digital Signal Processor (DSP) optimized for the compression/expansion of PCM coded voice to/from an extremely low bit rate. The DS2132 contains two advanced speech compression algorithms that offer outstanding fidelity. The Standard Record/Playback algorithm compresses speech to 9.8Kbps and the Extended Record/Playback algorithm compresses speech to 4.9Kbps.

The DS2132 is ideal for embedded applications such as digital answering machines, voice mail, voice annunciators, and any other device that needs to maximize

#### PIN ASSIGNMENT



DS2132 28-PIN DIP  
600 MIL



DS2132Q 28-PIN  
PLCC

speech storage in a limited memory space. A simple three wire interface to the embedded microcontroller frees up valuable controller port pins for other uses and simplifies the software needed to transfer speech data, issue commands, and receive DTMF/energy level/status information. The DS2132 detects and generates all 16 DTMF tones and can also generate a wide variety of call progress tones. In addition, the DS2132 provides CCITT Rec. T.30 FAX calling tone detection which enables the answering machine to determine if the incoming call is a voice or FAX transmission. The energy level detector allows the microcontroller to perform call progress detection and automatic gain control functions.