

TELECOMMUNICATIONS CIRCUITS

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ZNPCM3

ADVANCE INFORMATION SINGLE CHIP SYNCHRONOUS CODEC

The ZNPCM3 monolithic codec I.C. is the result of a joint development programme between British Telecom and Ferranti Electronics Limited. Developed for use in single channel codec systems, the device converts unfiltered audio signals into 8K samples/second compressed 'A' law pcm; the reverse function being performed in the decode direction.

The ZNPCM3 combines the essential features of the popular ZNPCM1 coded I.C. and the ZNPCM2 delta-sigma modulator I.C. in addition to providing the transmit/receive filter functions and a time slot assignment facility.

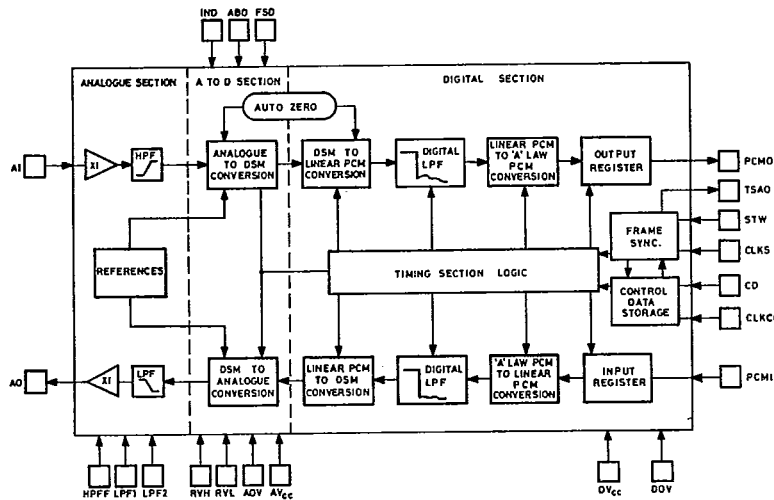
The ZNPCM3 operates from a 2048KHz system clock in the synchronous mode. Operating from a single +5V supply the ZNPCM3 dissipates 250mW when active and 20mW when powered down. It is available in a 28 lead DIL package (E28) or (H28) or a moulded chip carrier (Q28) and is designed to operate over the temperature range 0 to +70°C.

The device is manufactured using the Ferranti advanced bipolar process (FAB II) which is a simple six mask process. The chip is 95% digital on construction, minimising analogue circuit content and precision requirements, thereby achieving a design which has predictable and easily testable transmission characteristics.

The ZNPCM3 performance complies with CCITT system recommendations G711/G712 (1972).

FEATURES

- Converts analogue voice signals onto compressed pcm and vice-versa, using an on-chip delta-sigma modulated (DSM) code converter
- 'A' law companding characteristic
- Incorporates fixed ADI
- Single +5V power supply option
- Low power option by use of +2V digital supply pin
- On-chip digital transmit/receive low pass-filters (LPF)
- On-chip 3rd order analogue input high-pass filter (HPF). (Optional)
- Power down facility
- Moulded chip carrier encapsulation (Q28) plus moulded (E28) and ceramic (H28) DIL



System Diagram