



# Am79101

## WORLD-CHIP® Autodial FSK Modem

### DISTINCTIVE CHARACTERISTICS

- Bell 103, 113, 108 and CCITT V.21 compatible at 300 bps full-duplex
- Bell 202 and CCITT V.23 compatible at 1200 bps half-duplex with up to 150 bps back-channel (CCITT V.23 modes with optional soft carrier turn-off feature)
- Autodial support
  - Dual-Tone Multi-Frequency (DTMF) Tone Generation
  - Call-Progress Tone Detection
  - Answer-Tone Detection
- Single-chip digital signal processor
- Integral 4- to 2-wire hybrid
- Public Switched Telephone Network (PSTN) response times
- Serial RS-232C/CCITT V.24-type handshake interface and protocol

### GENERAL DESCRIPTION

The Am79101 WORLD-CHIP is a single-chip asynchronous Frequency Shift Keying (FSK) modem that is compatible with the applicable Bell and CCITT-recommended standards for 103/113/108, 202, V.21 and V.23-type modems. All modulation, demodulation, filtering, analog-to-digital and digital-to-analog functions are provided on-chip.

Using the features described here, an intelligent Autodial, Autoanswer FSK modem may be implemented with only an Am79101 single-chip under the control of a host microprocessor and a Data Access Arrangement (DAA) circuit.

The modem operates in a serial asynchronous mode; the serial interface supports the RS-232C/CCITT V.24-type handshake signals at TTL levels.

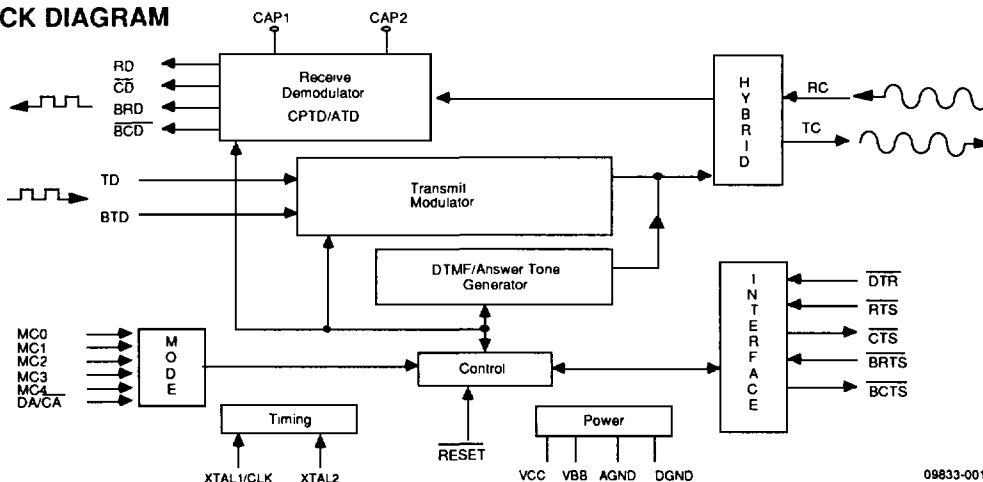
The modem analog interface provides an internal hybrid for the 4- to 2-wire conversion. Auxiliary functions performed within the Am79101 include:

- Autodial support with DTMF generation and Call Progress Tone Detection.
- Answer Tone Detection (Bell and CCITT).
- Autoanswer support.
- Analog loopback support.

The Am79101 is housed in a 28-pin plastic leaded chip carrier as well as 28-pin plastic and ceramic dual-in-line packages.

Connection to the telephone network may be via a DAA or an acoustic coupler. All digital I/O signals are TTL-compatible, except the external clock and RESET signals, and the circuit operates from  $\pm 5$  V.

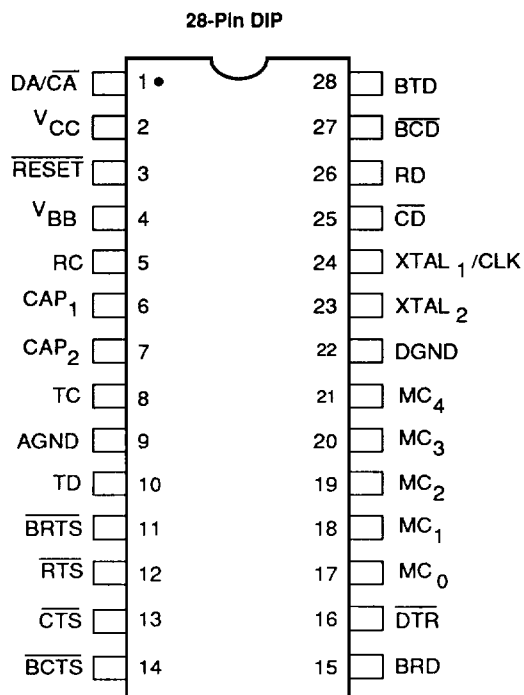
### BLOCK DIAGRAM



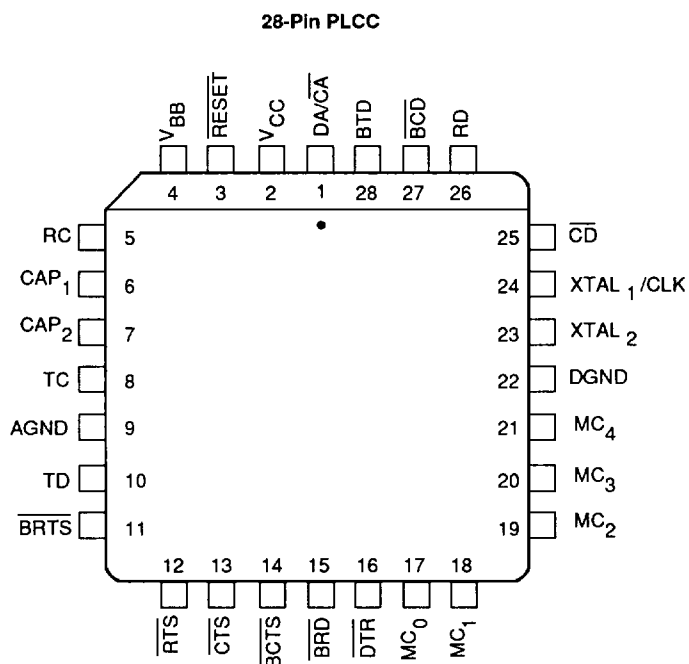
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## CONNECTION DIAGRAMS

### Top View



09833-2A



Note: Pin 1 is marked for orientation.

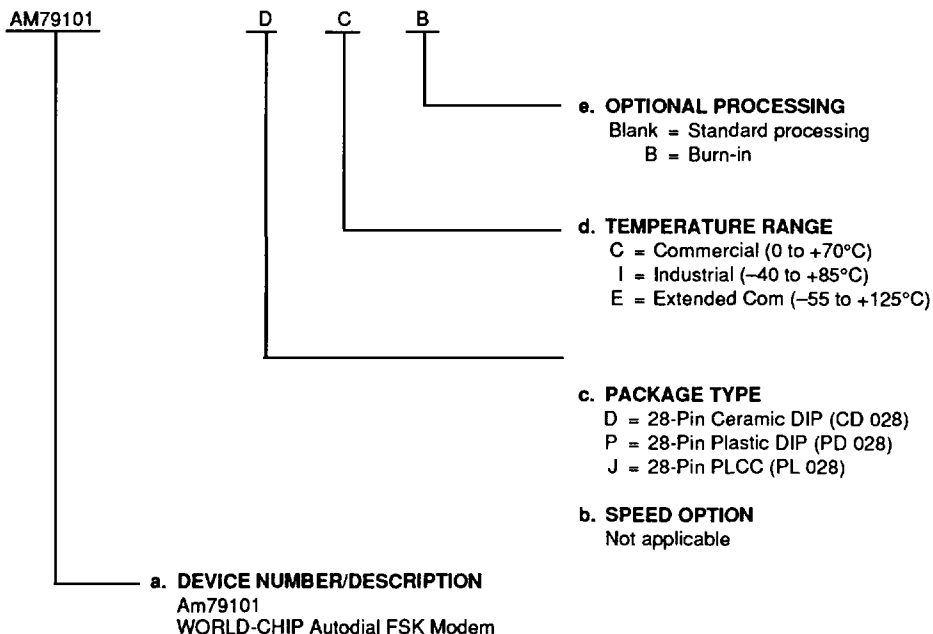
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## ORDERING INFORMATION

### Standard Products

AMD standard products are available in several packages and operating ranges. The order number (Valid Combination) is formed by a combination of:

- a. Device Number
- b. Speed Option (if applicable)
- c. Package Type
- d. Temperature Range
- e. Optional Processing



#### Valid Combinations

Valid Combinations	
AM79101	DC, DCB, DI, DIB, PC, DE, DEB, JC

Valid Combinations list configurations planned to be supported in volume for this device. Consult the local AMD sales office to confirm availability of specific valid combinations, to check on newly released valid combinations, and to obtain additional data on AMD's standard military grade products.