Am7913/Am7913/Am79C13

'AT' Modem Controller (ATMC)

ADVANCE INFORMATION

DISTINCTIVE CHARACTERISTICS

- Controls Am79C12 and Am79CV12 Full-Duplex 1200/300 bps Modems
- Interprets Hayes® 'AT' Command Set
- Compatible with 8250/16450 PC-based UARTs
- Automatic Character Synchronization
  - Baud rate determination
  - Character format determination
- Automatic Answer Function
  - Adapts to originating modem's baud rate
- Automatic Dialing Function
  - DTMF dialing
  - Pulse dialing
  - Special PBX features
- Extensive Modem Testing
  - Analog Loopback
  - Digital Loopback
  - Remote Digital Loopback
- Dialtone and Busy Signal detection
- Command Line Repeat Capability
- Software Control of Speaker Volume
- Voice/Data Switching
- Programmable Product ID
- Supports External EPROM for User-Custom Code Additions
- Available in:
  - Low-cost NMOS as Am7913
  - Low-power CMOS as Am79C13
- TTL Compatible I/O with Single +5-volt Supply
- Available in Plastic Leaded Chip Carrier or Plastic DIP Packaging

GENERAL DESCRIPTION

The Am7913/Am79C13 'AT' Modem Controller (ATMC) is designed to interpret the Hayes® 'AT' Command Set and in turn control the Am79C12/79CV12 Full-Duplex 1200/300 bps Modem in a PC Plug-in or Box Modem environment. With the addition of the 8250 UART for PC- and XT-compatible computers, or the 16450 UART for AT-compatible computers, the Am7913/Am79C13 runs with industry-standard software packages to emulate a "Smart Modem." RS-232C Transceivers replace the UART for Box Modem applications.

In the Command Mode, the Am7913/Am79C13 communicates with industry-standard application software via its serial port, and configures the Am79C12/79CV12 Modem via its parallel port. With the reception of the 'AT' Command Line Start Characters, the Am7913/Am79C13 automatically determines the application software's baud rate (1200/300) and character format including the number of data and stop bits and type of parity used. In the Data Mode, the Am7913/Am79C13 monitors the data being passed to the Am79C12/79CV12 Modem, waiting for a programmable Escape Sequence which the application software uses to return the Am7913/Am79C13 back to the Command Mode for parameter changes.

The intelligent dialing and answering features greatly expand the versatility of the Am7913/Am79C13. Automatic dialing functions include programmable options for PBX applications and the intelligence to detect the presence o absence of dialtone, as well as busy signal and no answe conditions. Automatic answer functions allow the un attended modem to answer a call and automatically adap to the originating modem's baud rate.

Many diagnostic features are also included for troubleshoot ing. These include an internal ROM checksum test to verif operation of the Am7913/Am79C13, an Analog Loopbacl test to verify operation of the Am79C12/79CV12 Modem, Digital Loopback test to verify the integrity of the telephon line and remote modem, and an intelligent Remote Digita Loopback test which utilizes a special handshake with a equally sophisticated remote modem. This test can be in itiated by either modem to verify the telephone line's opera tion with the opposite modem.

Speaker control is included to allow "hands free" feedbacl of the modem tones on the telephone line. Via software, th user can control when the speaker is operating, and ca select one of three speaker volumes. Optionally the use can switch the modem from data to voice communicatio without disconnecting and redialing the line.

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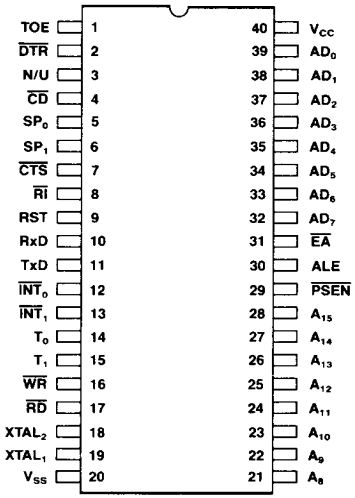
CONNECTION DIAGRAMS

DIP



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