

SCXV.22bis Modem

V.22bis Modem with SmartDAA 3 Line Side Device for Embedded Applications

Overview

The Conexant™ SCXV.22bis modem supports up to V.22bis data modem operation with V.42 and MNP4 error correction through a serial host interface. Major hardware interfaces are illustrated in Figure 1. Hardware interface signals are illustrated in Figure 2.

The SCXV.22bis Modem device set, consisting of a V.22bis Modem in a 28-pin TSSOP package and a SmartDAA™ 3 Line Side Device (LSD) in a 28-pin Quad Flat No-lead (QFN) package, supports data operation with hardware-based modem controller, digital signal processing, and DAA/telephone line interface functions.

This V.22bis Modem integrates microcontroller (MCU), serial host interface, ROM code, RAM, and SmartDAA system side device (SSD) functions onto a single die.

Conexant's SmartDAA™ technology (patent pending) eliminates the need for a costly analog transformer, relays, and opto-isolators typically used in discrete DAA implementation of country-specific modem configurations thereby reducing system solution cost to a single bill of materials (BOM).

The SmartDAA 3 system-powered DAA operates reliably without drawing power from the line, unlike line-powered DAAs, which operate poorly when line current is insufficient due to long lines or poor line conditions. Enhanced features, such as monitoring of local extension status without going off-hook, are also supported.

Incorporating Conexant's proprietary Digital Isolation Barrier (DIB) design (patent pending) and other innovative DAA features, the SmartDAA architecture simplifies application design, minimizes layout area, and reduces component cost.

Small, low profile packages reduce voltage operation with low power consumption makes this device set an ideal V.22bis solution for embedded applications using serial DTE interface.

Although the modem operates by executing a mask code from internal ROM and RAM, a country profile can be added or modified via host upload to the modem internal RAM.

In V.22 fast connect mode, the modem can connect at 1200 bps with a very short training time, which is very efficient for small data transfers. Also, V.80 synchronous access mode supports host-controlled communication protocols.

Applications

- Set top boxes
- Point-of-Sale terminals
- ATM machines
- Minitel terminals

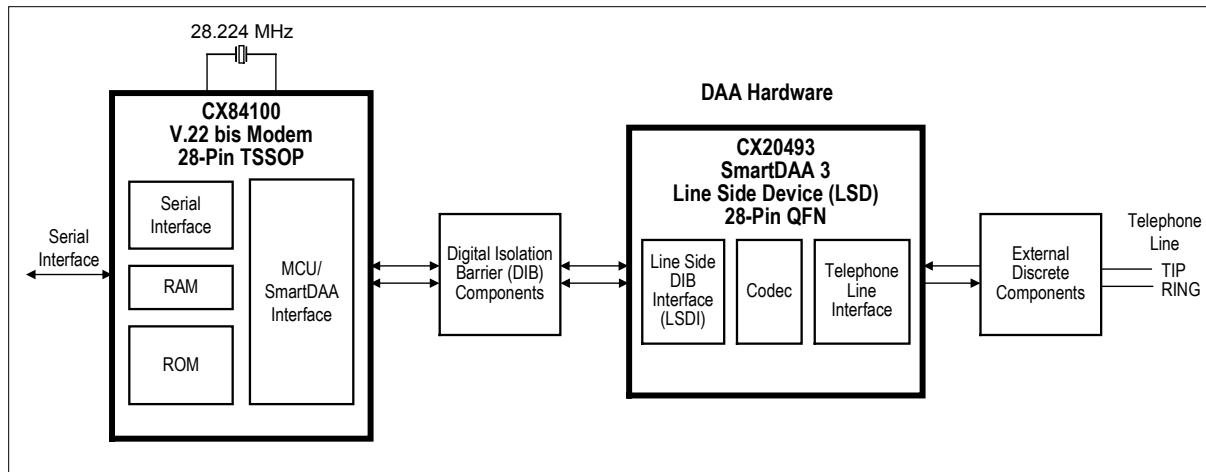
Features

- Modulations
 - ITU-T V.22bis (2400 bps)
 - V.22 and Bell 212A (1200 bps)
 - V.22 fast connect
 - V.21 and Bell 103 (300 bps)
 - V.23 1200/75 and 75/1200
 - V.23 Half Duplex (1200 bps)
 - Error Correction Protocols
 - V.42 (LAPM)
 - MNP2-MNP4
 - Serial Interface
 - Synchronous Data Mode
 - Asynchronous Data Mode (Normal and Direct)
 - 10- and 11-bit data
 - DTE speeds up to 57,600 bps
 - AT Command speed sensing from 300 bps to 57,600 bps
 - RTS/CTS hardware flow control
 - XON/XOFF software flow control
 - AT Command Set
 - Command set includes common Hayes/legacy and V.250 commands
 - AT\$Fn fast connect commands
 - Other Protocols
 - V.80 Synchronous Access Mode
 - V.23 Reverse Mode Protocol
 - Caller ID Decoding
 - On-Hook Caller ID Type 1 decoding
 - FSK decoder for Bell 202/V.23
 - Line Reversal Detection
 - Call Waiting Caller ID (CWCID) Type 2 decoding
 - Worldwide Compliance
 - Worldwide DC Mask Compliance (DC1, DC2, DC3, and DC4)
 - Worldwide Pulse Dialing
- (Continued on Page 2)*

Features (Continued)

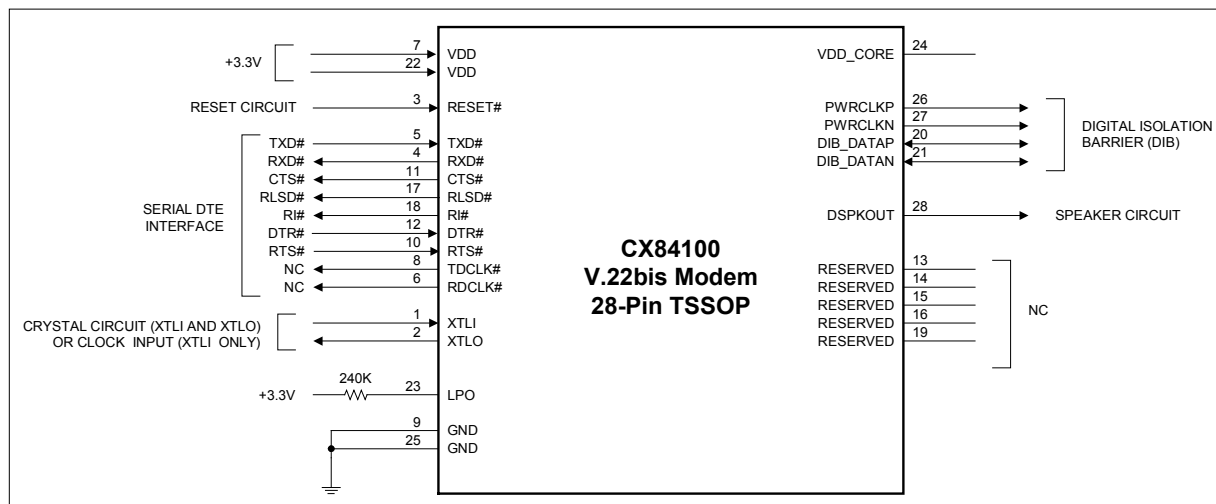
- Enhanced DAA features
 - Digital Line Protection
 - Line Reversal Detection (for U.K. Caller ID signaling)
 - Line-In-Use Detection
 - Extension Pickup Detection (option to automatically disconnect or inform the DTE)
 - Remote Hangup Detection
- Power
 - Single +3.3V supply
 - Sleep Mode
- Pin-compatible with Conexant SmartV.90+/SmartV.34/SmartV.32bis Modem in 28-pin CTLGA

Figure 1. SCXV.22bis Modem Simplified Interface Diagram



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Figure 2. SCXV.22bis Modem Hardware Interface Signals



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NOTES

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