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Product Brief

Conexant

CX86500

CONEXANT

Serial/Parallel Modem with 3rd Generation Smart DAA

CX86500

Controller-Based Modem with SmartDAA® 3 for Embedded Applications

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications, enterprise networks and the digital home. The CX86500 modem paired with the CX20493 SmartDAA 3 line side device (LSD), is ideal for embedded applications such as Point of Sale (POS) terminals, Set-Top Boxes, Video Recorders, Meters, Security Systems, Remote Site Management and other applications that require robust dial-up connectivity.

The CX86500 modem device set consists of a CX86500 modem in either a 28-pin thin shrink small outline package (TSSOP) or 38-pin TSSOP package, and CX20493 SmartDAA 3 LSD in either a 28-pin quad flat no-lead (QFN) package or a 32-pin low profile quad flat package (LQFP). The CX86500 28-pin TSSOP supports serial DTE interface. The CX86500 38-pin TSSOP supports serial and parallel interface as well as a nonvolatile random access memory (NVRAM) option.

The device set integrates the microcontroller, digital signal processor, memory, and a worldwide DAA/telephone line interface function that operates with public switched telephone network (PSTN) telephone lines worldwide.

The V.92 modem supports data modes up to 56 kbps and includes features such as Quick Connect, Modem-on-Hold, and PCM Upstream. A V.34 option) and V.32bis option are also available.

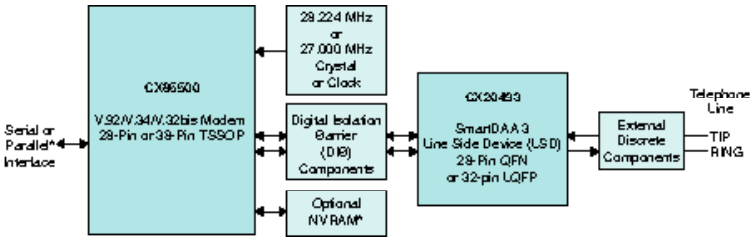
Conexant's CX20493 SmartDAA 3 LSD eliminates the need for bulky analog transformers, relays, and opto-isolators typically used in discrete DAA implementations. The CX20493 operates without drawing power from the phone line, unlike line-powered DAAs, and is therefore not subject to variations in line voltage conditions. The LSD also adds enhanced telephony extension features to the modem's operation. Incorporating Conexant's proprietary digital isolation barrier (DIB) design and other innovative DAA features, the SmartDAA architecture simplifies application design and minimizes layout area to reduce design cost.

The CX86500 28-pin TSSOP is pin-compatible with Conexant's CX81801 28-pin CTLGA and CX84100 28-pin TSSOP.

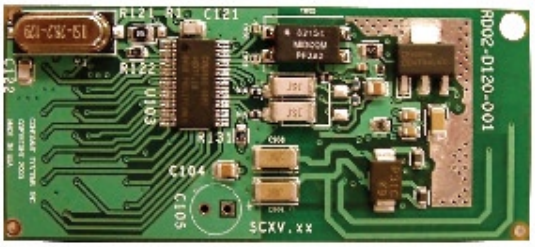
Distinguishing Features

- Controller-based modem, no external memory required
- V.92, V.34 and V.32bis options–V.92 includes Quick Connect, Modem-on-Hold and PCM Upstream
- V.29 FastPOS and V.22 Fast Connect
- V.80 sync access mode, synchronous and asynchronous DTE interface
- V.44/V.42bis and MNP5 data compression
- V.42 and MNP2-4 error correction
- Selectable 28.224 MHz or 27 MHz frequency of operation
- 28 or 38-pin TSSOP package available
  - Serial or parallel interface
  - Optional NVRAM support
  - 28-pin TSSOP is pin-compatible with CX84100 and CX81801 modems
- CX20493 SmartDAA 3 LSD in a 28-pin QFN or a 32-pin LQFP package
- Worldwide support
- Quick time-to-market
- Reference design supports 5KV isolation

Part Number	CX86500
Description	Serial/Parallel Modem with 3rd Generation Smart DAA



CX86500 Modem Block Diagram
***38-pin version only**



26mm x 59mm
CX86500 Modem Reference Design

CX86500 Features

- Modulations and protocols
  - ITU-T V.92: Quick Connect, Modem-on-Hold and PCM upstream
  - V.90/V.34/V.32bis/V.32
  - V.22bis/V.22/V.23/V.21
  - V.23 reverse, V.23 half-duplex
  - Bell 212A/Bell 103
  - V.29 FastPOS and V22 Fast Connect
  - V.80 Synchronous Access Mode
- V.44/V.42bis/MNP5 data compression
- V.42/MNP2-4 Error correction
- Call waiting (CW) detection for selected countries
- DTE/host interface
  - Serial DTE interface
  - Parallel 16550 UART-compatible host interface (38-pin version only)
  - Direct mode
  - Synchronous mode and asynchronous mode
- Hardware and software flow control and speed buffering
- Embedded and upgradable 63 country profiles
- Serial NVRAM interface for optional country profile storage (38-pin version only)
- Full-duplex 8-bit/16-bit PCM voice pass-through mode
- Selectable 28.224 MHz or 27.000 MHz frequency of operation
- Worldwide operation
  - Complies to TBR21 and other country requirements
  - Type I and Type II Caller ID (CID) decoding for selected countries
  - Call progress, blacklisting
  - Meets worldwide DC mask requirements
- Low power and voltage
  - Single +3.3 V supply
  - Low power consumption mode
  - +3.3 V I/O level
- Compact, robust board design
  - Small, low-profile modem packages
  - Reference design supports 5KV isolation

SmartDAA Features

- Extension pick-up detection
- Digital line protection
- Line reversal detection
- Remote hang-up detection
- Worldwide compliance

Conexant Product Portfolio

The company's broad portfolio of semiconductor products also includes client-side DSL, cable, and dial-up modem solutions; fiber optic system-on-chips; broadcast video encoders and decoders; digital set-top box components and systems solutions; and IEEE 802.11a/b/g/n-compliant WLAN chipsets. Additional products include a complete line of asymmetric and symmetric DSL central office solutions, which are used by service providers worldwide to deliver broadband data, voice, and video over copper telephone lines.

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