CIRRUS LOGIC®

CS8900A

Crystal LAN™ ISA Ethernet Controller

The following information is based on the technical datasheet:

CS8900A DS271PP2 DEC'98

Please contact Cirrus Logic : Communications Products Division for further information.

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PRODUCT INFORMATION

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PI271PP1 DEC '98

Crystal LAN™ *ISA Ethernet Controller*

Features

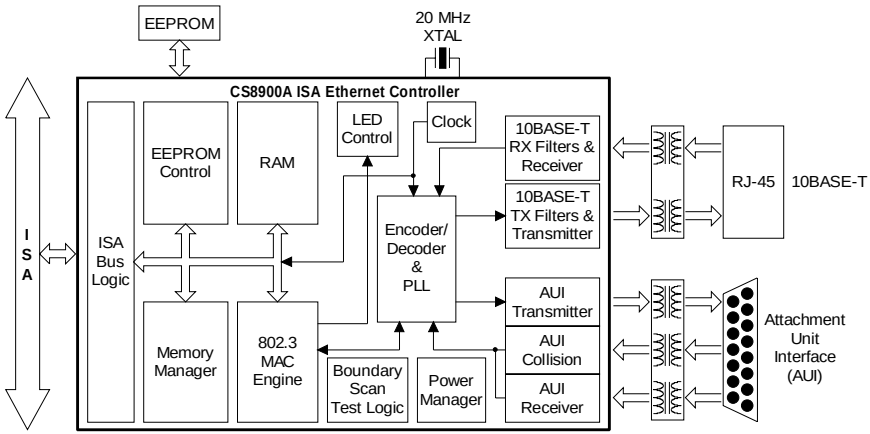
- Single-Chip IEEE 802.3 Ethernet Controller with Direct ISA-Bus Interface
- Maximum Current Consumption = 55 mA (5V Supply)
- 3 V Operation
- Industrial Temperature Range
- Comprehensive Suite of Software Drivers Available
- Efficient PacketPage™ Architecture Operates in I/O and Memory Space, and as DMA Slave
- Full Duplex Operation
- On-Chip RAM Buffers Transmit and Receive Frames
- 10BASE-T Port with Analog Filters, Provides:
  - Automatic Polarity Detection and Correction
- AUI Port for 10BASE2, 10BASE5 and 10BASE-F
- Programmable Transmit Features:
  - Automatic Re-transmission on Collision
  - Automatic Padding and CRC Generation
- Programmable Receive Features:
  - Stream Transfer™ for Reduced CPU Overhead
  - Auto-Switch Between DMA and On-Chip Memory
  - Early Interrupts for Frame Pre-Processing
  - Automatic Rejection of Erroneous Packets
- EEPROM Support for Jumperless Configuration
- Boot PROM Support for Diskless Systems
- Boundary Scan and Loopback Test
- LED Drivers for Link Status and LAN Activity
- Standby and Suspend Sleep Modes

Description

The CS8900A is a low-cost Ethernet LAN Controller optimized for Industry Standard Architecture (ISA) Personal Computers. Its highly-integrated design eliminates the need for costly external components required by other Ethernet controllers. The CS8900A includes on-chip RAM, 10BASE-T transmit and receive filters, and a direct ISA-Bus interface with 24 mA Drivers.

In addition to high integration, the CS8900A offers a broad range of performance features and configuration options. Its unique PacketPage architecture automatically adapts to changing network traffic patterns and available system resources. The result is increased system efficiency.

The CS8900A is available in a 100-pin TQFP package ideally suited for small form-factor, cost-sensitive Ethernet applications. With the CS8900A, system engineers can design a complete Ethernet circuit that occupies less than 1.5 square inches (10 sq. cm) of board space.



Overview

The CS8900A is a true single-chip, full-duplex, Ethernet solution, incorporating all of the analog and digital circuitry needed for a complete Ethernet circuit. Major functional blocks include: a direct ISA-bus interface; an 802.3 MAC engine; integrated buffer memory; a serial EEPROM interface; and a complete analog front end with both 10BASE-T and AUI.

FAQs

1) What software drivers are available for the CS8900A?

A: We have all the most popular drivers available, including
- LINUX
- Microsoft
  - NDIS 2 DOS driver
  - NDIS 2 OS/2 driver
  - NDIS 3 drivers for:
    - Windows NT
    - Windows for Workgroups
    - Windows 95
    - Windows CE
- Novell
- ODI DOS driver
- ODI OS/2 driver
- ODI Server
- Packet Driver (TCP/IP)
- pSOS
- Real-time OS drivers
- RIPL (Remote Initial Program Load) for ODI and NDIS 2
- RTOS/NCOS (ARM and Oracle) - In development
- SCO
- Setup/installation Utility: EEPROG Utility (EEPROM programming utility)
- UNIX
- VxWorks

2) How can I get these drivers?

A: By request to ethernet@crystal.com, or calling James Ayres at 1 512 912 3827. A license agreement is required for source code of some drivers.

Ordering Information

CS8900A-CQ	0° to 70° C	100-pin TQFP
CS8900A-IQ	-40° to 85° C	100-pin TQFP
CS8900A-CQ3	0° to 70° C	100-pin TQFP
CRD8900A-1		Evaluation Kit

If you have any questions, please contact the undersigned by phone or by email. Also, visit our website “www.crystal.com” or call our literature department (800) 888-5016 ext. 3594 or (512) 912-3594 for data sheets and application notes.

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