CL-PD6710/PD672X

CIRRUS LOGIC®

FEATURES

- Single-chip PCMCIA host adapters
- Direct connection to ISA (PC AT) bus
- Direct connection to PCMCIA socket
- Compliant with PCMCIA 2.1 and JEIDA 4.1
- 82365SL-compatible register set, ExCA™-compatible
- Automatic Low-power Dynamic mode for lowest power consumption
- Programmable Suspend mode
- Five programmable memory windows per socket
- Two programmable I/O windows per socket
- Programmable card access cycle timing
- 8- or 16-bit CPU interface
- 8- or 16-bit PCMCIA interface support
- ATA disk interface support
- DMA support (CL-PD6722)
- Easy host interface using ISA I/O addresses 03E0h and 03E1h
- Mixed-voltage (3.3V or 5V) operation
- Single-socket interface: 144-pin VQFP for smallest form factor (CL-PD6710)
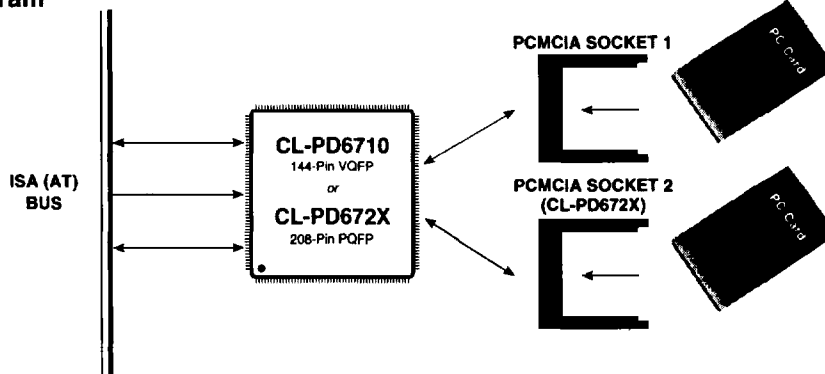- Dual-socket interface: 208-pin PQFP (CL-PD672X)

PCMCIA Host Adapters

OVERVIEW

The CL-PD6710, CL-PD6720, and CL-PD6722 are single-chip PCMCIA host adapter chips capable of controlling one (CL-PD6710) or two (CL-PD6720 and CL-PD6722) PCMCIA sockets. The chips are fully PCMCIA-2.1 and JEIDA-4.1 compliant and are optimized for use in notebook and handheld computers where reduced form factor and low power consumption are critical design objectives. With the CL-PD6710, a complete PCMCIA solution with power-control logic can occupy as little as 1.5 square inches (excluding the connector). The CL-PD672X enables a complete dual-socket PCMCIA solution with power-control logic in less than 2 square inches (excluding connectors).

The CL-PD6710 and CL-PD672X chips employ energy-efficient mixed-voltage technology that can reduce system power consumption by over 50 percent. The chips also provide a Suspend mode, which stops the internal clock, and an automatic Low-power Dynamic mode, which stops transactions on the PCMCIA bus, stops internal clock distribution, and turns off much of the internal circuitry. *(cont.)*

System Block Diagram

ISA (AT) BUS

CL-PD6710
144-Pin VQFP
or
CL-PD672X
208-Pin PQFP

PCMCIA SOCKET 1

PCMCIA SOCKET 2
(CL-PD672X)

CIRRS012

OVERVIEW (cont.)

PC applications typically access PCMCIA cards through the socket/card-services software interface. To assure full compatibility with existing socket/card-services software and PC-card applications, the register set in the CL-PD6710 and CL-PD672X is a superset of the Intel® 82365SL register set.

Both chips provide fully buffered PCMCIA interfaces, meaning that no external logic is required for buffering signals to/from the interface, and power consumption can be controlled by limiting signal transitions on the PCMCIA bus.

Notebook Computer Design Priorities	*Supporting Features*
■ Small Form Factor	❏ Single-chip solutions
	❏ No external buffers for host or socket
	❏ Efficient board layout
■ Minimum Power Consumption	❏ Automatic Low-power Dynamic mode
	❏ Suspend mode
	❏ Mixed-voltage operation
■ High Performance	❏ Write cache
	❏ Programmable timing supports more cards, faster reads and writes
	❏ Automatic bus sizing for 8- or 16-bit
	❏ DMA available with the CL-PD6722
■ Compatibility	❏ Compliant with PCMCIA 2.1 and JEIDA 4.1
	❏ 82365SL A-step register-compatible, ExCA-compatible

Host Adapter Form Factor