ccPMC430

Conduction Cooled Secure Storage PMC

A conduction cooled Storage PMC with SecureErase and WriteProtect functions. The ccPMC430 provides advanced levels of data security for sensitive applications in military and commercial environments. Write protection prevents unwanted erasure, overwrite, or modification of sensitive data and operating system information.

The Secure-Erase mode enables rapid and thorough destruction of that data when required. The ccPMC430 provides two methods of data protection: Secure-Erase, with two levels of data purging; and Write-Protect, preventing data from being overwritten or modified. It couples a PCI/ATA core with secure-erase and write-protect logic implemented via a FPGA. The ccPMC430 is a fully integrated and tested storage solution capable of operating in environments where extended shock and vibration conditions exist. The media and the controller have been pre-qualified with major operating systems.

Benefits:
Means of securing media from unauthorized write or erasure of data where its most needed. Hardware initiated write protection and secure erasure helps prevent unintended intervention, since no OS is required for implementation. Cost effective mass storage, eliminating cables and the need to use SCSI based storage solutions for applications requiring moderate storage capacities. Solves rugged embedded mass storage requirements.

CompactFlash Media:
Solid state storage capacity with rugged, enhanced duty CompactFlash drives. Up to 8 GB CF-I (16 GB CF-II). The CompactFlash II minimally exceeds the component height limit in the IEEE 1386.1 specification by 1.3 mm including retaining bracket. This is not typically an issue for the vast majority of boards. (Consult factory as capacities regularly increase). Extended operating temperature (-40°C to +85°C). With bootable device drivers for Linux and VxWorks, the ccPMC430 is an ideal embedded solution for secure storage requirements.

Features:

> Hardware initiated Secure-Erase offers two erasure levels: destructive or non-destructive
> Hardware initiated Write-Protect feature is enabled via an external signal or switch
> Provision for on-board BIOS for system boot directly from storage media
> Support for multiple storage vendors enables selection for environmental performance
> Convection or conduction cooled; uses industrial temperature range components (-40°C to +85°C operating); conformal coating available where required
> Complete solution includes storage, PMC and software. Each assembled unit is configured and undergoes functional testing to confirm reliable operation of the entire unit before shipment

Features and compatibility

* Compliant with PCI Local Bus (v. 2.2)
* Supports 3.3 VIO signalling
* Disk controller is ATA-2 compliant
* RoHS compliant
* Available with conformal coating, applied in accordance with MIL-I-46508
* Designed for operation on conduction cooled single board computer platforms per the VITA 20 specification
* Heat conduction areas are provided
* May be used on any board supporting standard PMC sites
* Software compatibility: VxWorks, Linux, and Windows. Please inquire about other operating systems

IDE/ATA Controller Specifications

* ATA-2 Channel implemented via on-board FPGA
* Independent DMA channel with 8K FIFO
* Supports single- and multi-word DMA transfers
* MDMA Mode 0, 1, 2 and PIO modes 0,1,2,3, and 4
* 32-bit 33MHz PCI interface
* Compatible with Microsoft IDE/ATA drivers
* Compliant with PCI 2.2
* 3.3 VIO signaling (not 5V tolerant)
* 2 CF slots support type I and II, 3.3V powered
* Front panel CF slot capable of hot swap
* Hardware initiated Secure-Erase (for supported CF card vendors only)
* Hardware enforced Write-Protect

Environmental Specifications

Assembly with 1 on-board CF-I Drive:

* Transfer Rates (Max). Read/Write: 2.0 to 7.0 MB/s. Rates vary greatly dependent on selection of processor, CF, and OS
* DC Input Voltage: 5V ±5% @ .2A typ.
* Temperature. Operating: -40 to +85°C; Non-operating: -50 to +95°C
* Humidity Uncoated. Operating: 5% to 95% non-condensing
* Humidity Coated. Operating: 5% to 100% non-condensing
* Vibration. Oper. and Non-Oper: 2 G @ 15 to 2,000 Hz sinusoidal input
* Shock. Operating: 40 Gs half sine, 11 msec duration
* MTBF (std ambient t = 30°C). 645,079 hours (tested to MIL-STD-217 Ground Benign;assumes 4 million hours CF MTBF)

Interface/CF Card Capacities

Interface:

* Typically, no cabling is required since the drive is on-board
* The data security feature can be initiated via a toggle switch for Write-Protect, a push-button for Secure-Erase, or via the Pn4 rear-I/O connector
* Write-Protect can also be enabled via an on-board DIP switch.

Industrial CompactFlash:

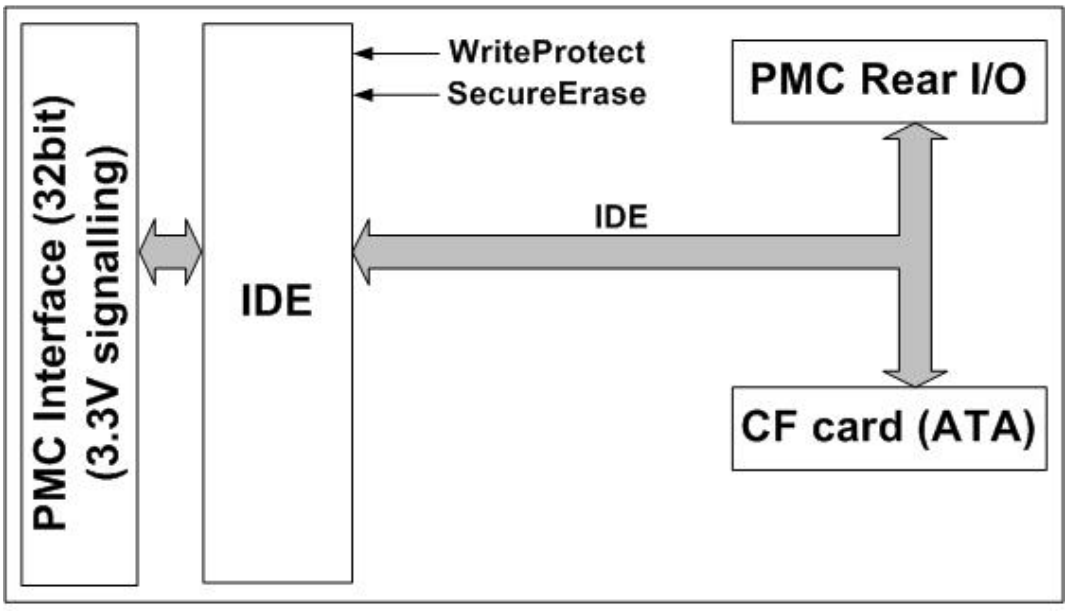
* Capacity Type I: 1, 2, 4, 8 (early 2007) GB
* Capacity Type II: 8, 16 (early 2007) GB
* Capacities and manufacturer specifications are continually changing and improving. Please consult our sales desk for the most current information

Ordering Information

* **ccPMC430/T07** Conduction cooled Storage PMC with SecureErase and WriteProtect functions, including 8GB CF card type I
* **ccPMC430/T08** Conduction cooled Storage PMC with WriteProtect function, including 8GB CF card typeI I
* **ccPMC430/T09** Conduction cooled Storage PMC with SecureErase and WriteProtect functions, including 4GB CF card type I
* **ccPMC430/T10** Conduction cooled Storage PMC with WriteProtect function, including 4GB CF card type I
* **ccPMC430/T11** Conduction cooled Storage PMC with SecureErase and WriteProtect functions, including 2GB CF card type I

Ordering Information

* **ccPMC430/T12** Conduction cooled Storage PMC with WriteProtect function, including 2GB CF card type I
* **PMC430FRONT/T01** PMC front bezel with two buttons to be used with ccPMC430 in non-conduction cooled systems
* **ccPMC430/DOSFS** MsDos compatible File system, OS-less implementation
* **ccPMC430/RBM** OS-9/68k RBF driver with ATA CF card
* W offer a wide variety of configurations. For information please contact our sales desk on the number in this data sheet



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