Storage Controller PMC

IDE Controller PMC with 40-pin Interface Connector

The IDE Controller PMC, when mated to a host or carrier card, provides an interface between the PCI bus and as many as four IDE/ATA devices, via two independent channels.

Built around a Silicon Image PCI-680 IDE controller chipset, the product supports the Ultra 133 data-transfer protocol over primary and secondary IDE channels. It also supports slower bus-master data transfer rates to accommodate hard disk drives (HDDs) that do not support Ultra 133.

The primary IDE interface appears at the front panel and also at one of the two on-board Compact Flash sockets. Two front panel connector options are available. Depending on customer requirements, the IDE Controller PMC is manufactured with either a 40-pin, 0.100" pitch connector (P/N 5251), for the standard IDE interface, or a 44-pin, 2 mm pitch connector (P/N 5252)for the Small Form Factor (SFF) connector specification.

The PCI bus operates at 33 MHz, 32 bit. Phase Locked Loops inside the 680 chip generate the necessary clocks from the PCI clock for supporting Ultra 133 transfers. Both 3.3V and 5V PCI bus signaling is supported.

The secondary IDE interface appears at the rear I/O connector (PN4) on the PMC and can be connected to the VMEbus P2 connector of a host or carrier card supporting rear I/O connectivity. One of the two Compact Flash devices is also connected to the secondary IDE interface.

The IDE controller PMC also supports two sites for mounting CompactFlash cards, one per channel. Both sites are configured to operate in true IDE mode. Additionally, each site can be set to operate in either master or slave mode.

To assure connection integrity, the CompactFlash cards can be secured to the IDE Controller PMC using a combination of locking mechanisms to prevent lateral movement and/or incidental card extraction due to shock or vibration.

DMA transfer signals to the Compact Flash sites is supported.

5251

- **Accommodates up to 4 IDE/ATA devices**
- **Silicon Image PCI680 controller**
- **Ultra 133 on pirmary and secondary IDE channels**
- **Dual CF sites with positive retention**
- **Supports DMA transfer to CF devices**
- **On-board BIOS storage for boot configuration**
- **LEDs convey disk activity for both IDE channels**
- **RoHS-compliant, Lead-free**
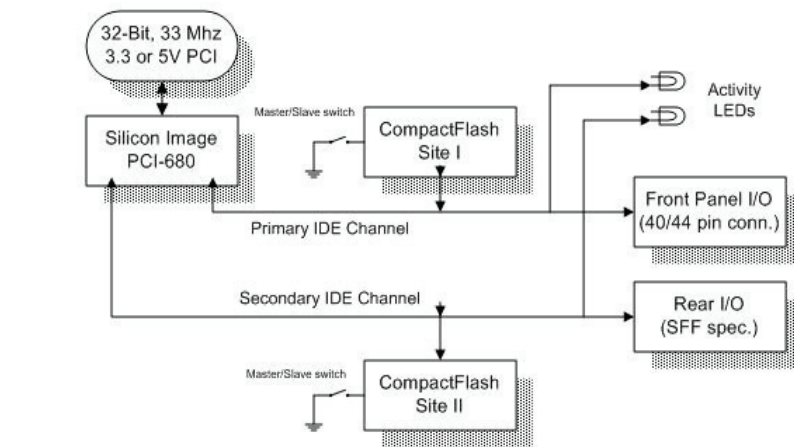
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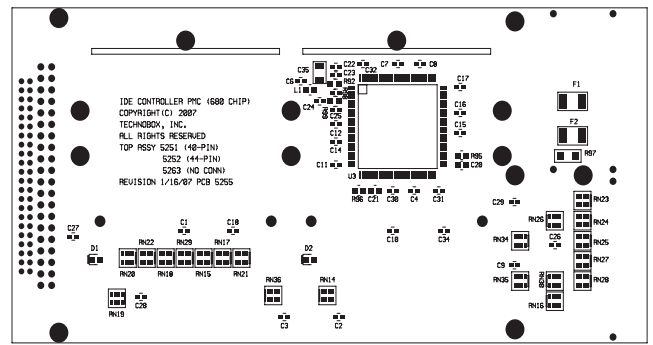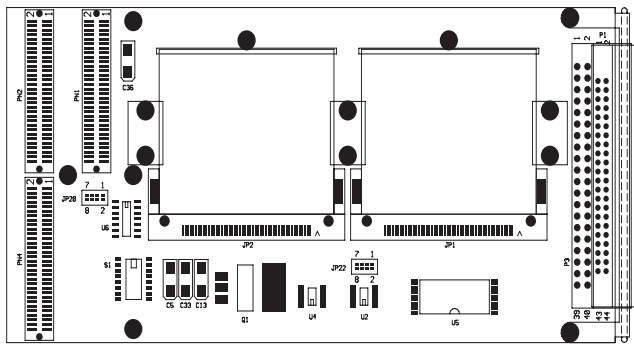
On-board BIOS, provided by Silicon Image and resident in flash memory, supports boot up configuration. This feature is supported only on Intel platforms.

Two LEDs are provided to monitor disk activity on the two IDE channels. The IDE Controller PMC supports four interrupts. Interrupt configuration is managed by DIP switch settings. Default setting is Interrupt A.

The 5251/5252 products are RoHS compliant follow-on products to the original 3016/3240 products. Note that these are all architecturally similar, but the newer generation products (5251/5252) use the Silicon Image 680 chip while the older products use the Silicon Image 648 chip.

Operating System support is provided by drivers located at Silicon Image's website (www.siimage.com).

Specifications

Temperature (Operating): 0° to 55° C

Temperature (Storage): -40° to +85° C

Altitude: Not specified or characterized (Typical similar equipment is at 15,000 ft.)

Humidity (Operating/Storage): 5% to 90% non-condensing

Vibration: Not specified or Characterized

MTBF: Available upon request

Typical Power Dissipation: TBD

Power Supplies Required: 5 Volts

PCI Environment: 3.3V or 5V

Ordering Information

5251: IDE Controller PMC with 40-pin Interface Connector

5252: IDE Controller PMC with 44-pin Interface Connector

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