Storage Controller PMC

8 Megabyte Non Volatile SRAM PMC

The Non-Volatile SRAM PMC provides a means for reliably storing up to 8 Megabytes of random access data for at least 2 months during power down.

A battery backed-up SRAM approach is superior to FLASH memory schemes, since true random read-write is offered. FLASH schemes generally require time-consuming block-erase and complex programming algorithms.

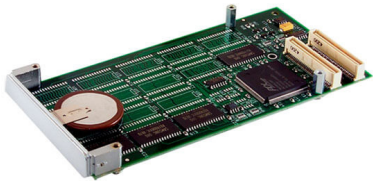
When the host/PMC is powered up, the 8 Megabytes of SRAM is mapped into the host processor space by the PCI bridge chip, and can be accessed from the host just like any other host-accessible memory area. To maintain integrity of the data, it is important that the host does not perform any destructive power-on confidence tests of this programmed region of memory space.

The SRAM array consists of sixteen 512Kx8b devices organized in four banks of 512Kx32b. The SRAM is fully byte-writable from the PCI bus, thereby allowing any partial word transfers between the host and the SRAM array.

While the PMC is powered down, one 100 milliamp-hour rechargeable Lithium battery supplies the SRAM such that the memory is retained for at least one month.

The rechargeable Lithium Battery technology used for this product permits a maintenance-free battery backup scheme. The capacity life of the battery is not a concern, since the batteries are continuously being recharged while power is applied. Recharging current is obtained from the PMC bus +5V supply, while the rest of the board is powered from PMC bus 3.3V.

A non-volatile NV-RAM controller is used on the PMC so that when 3.3V falls below a value between 2.8 and 3.0 volts, the SRAMs are inhibited from further access, and the battery



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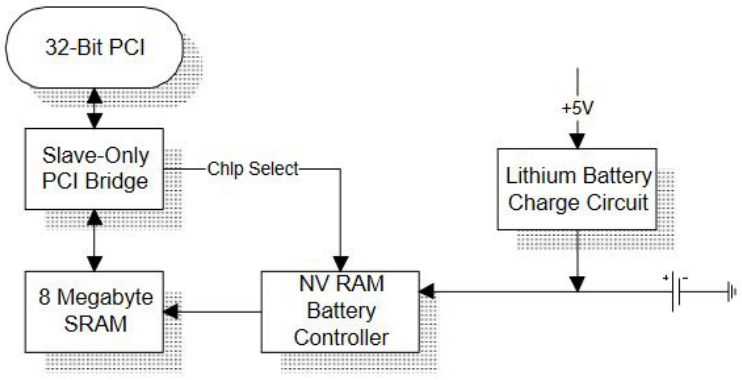
- **Uses Leaded Solder**



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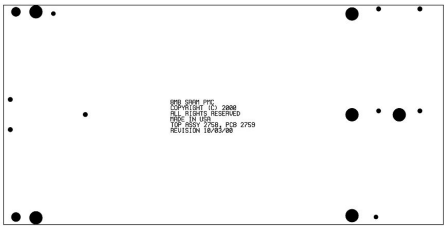
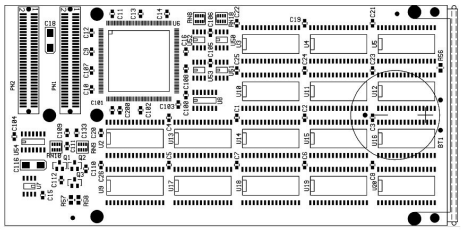


COMPONENT PLACEMENT VIEW - SIDE #1



COMPONENT PLACEMENT VIEW - SIDE #2

circuit starts supplying backup power to the SRAM array.

This product can be populated in multiples of 2 Megabytes, up to a maximum of 8 Megabytes, on special production builds.

The PCI bus interface chip used in this product, a PLXPCI9030, can operate with either 5V or 3.3V PCI bus signaling levels.

SPECIFICATIONS

Typical Power Dissipation: TBD Watts

Power Supplies Required: +3.3V, +5V for Battery Charger

PCI Signaling Environment: 3.3 or 5 Volt

ORDERING INFORMATION

2758: 8 Megabyte Non Volatile SRAM PM

5307: Non-Volatile SRAM PMC (8 Megabyte)

5315: Non-Volatile SRAM PMC

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