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Ramtron FM23MLD16 8-Mbit Parallel Nonvolatile F-RAM Memory

Posted by Ken Cheung in [Components](#) on Thursday, July 23, 2009

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The Ramtron FM23MLD16 is an 8-Mbit, 3-volt, parallel nonvolatile RAM in a 48-pin Fine-Pitch Ball Grid Array (FBGA) package. The F-RAM features fast access, virtually unlimited read/write cycles, and low power consumption. The RoHS-compatible FM23MLD16 is pin-compatible with asynchronous static RAM (SRAM). It is ideal for industrial control systems such as robotics, network RAID storage solutions, multi-function printers, auto navigation systems, and a host of other SRAM-based system designs. Samples of the FM23MLD16 are available now. Pricing is \$29.23 in quantities of 10K.

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The FM23MLD16 is organized as a 512K x 16 nonvolatile memory, accessed with an industry standard parallel interface. Access time is 60ns and cycle time is 115ns. The device reads and writes at bus speed for NoDelay writes with endurance of at least 1E14 (100-trillion) writes and 10-year data retention.

The FM23MLD16 offers superior performance over battery-backed SRAM (BBSRAM), as it does not require a battery for data backup. The FM23MLD16 is a true surface-mount solution, requiring no rework steps for battery attachment and, unlike battery-backed SRAM, is highly resistant to moisture, shock and vibration, making F-RAM ideal for harsh industrial applications. The FM23MLD16 includes a low voltage monitor that blocks access to the memory array when supply voltage drops below a critical threshold. The memory is protected against an inadvertent access and data corruption under this condition.

With a convenient interface to current high-performance microprocessors, the FM23MLD16 features a high-speed page mode that enables 8-byte burst read/write operations at up to 33MHz. The device draws 9 milliamps for reads/writes and a typical standby current of 180 microamps. It operates from 2.7 to 3.6 volts over the industrial temperature range (-40 degrees C to +85 degrees C).

More information: [Ramtron](#)

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