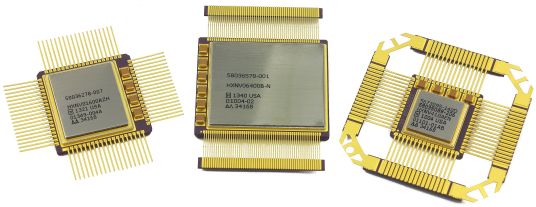
Magnetoresistive RAM



Honeywell MRAM:
Reliable and Rad Hard Nonvolatile Memory for Space Applications

Honeywell

Next Generation Memory

To provide space system electronics a robust and reliable nonvolatile memory for long term data storage, Honeywell offers the new space-qualified, radiation hardened magnetoresistive random access memory (MRAM). The Honeywell non-volatile MRAM offers longer data retention, excellent endurance and wider operating temperature range compared to other non-volatile technologies.

With 1Mb, 16Mb and 64Mb (in development) density devices, system designers can now benefit from a commercial-based memory technology that withstands the harsh environments of space. The MRAM delivers long-term data integrity for critical applications like processor code storage and fast access times for re-writeable data logs.

Why MRAM?

A combination of the MRAM and Honeywell Rad Hard Silicon on Insulator (SOI) CMOS technologies makes it revolutionary.

Unlike most other memory technologies, MRAM data is stored as a magnetic state rather than an electrical charge which results in longer data retention and reduction in power. A great new memory is created by combining the ability to retain data (with or without power) and nearly unlimited Read and Write cycles with the radiation hardened 150nm SOI CMOS technology. Our MRAM series delivers high reliability and radiation hardness over a wide operating temperature range of -40°C to +125°C.

Honeywell Committed to Your Innovations

PRODUCT	CONFIGURATION	VOLTAGE(V)	Read Access / Write Cycle Time	TOTAL DOSE/SEU
1 Mb HXNV0100	64K X 16	1.8V, 3.3V	Read: <80ns Write: 140ns	300k or 1Mrad(Si)/ 1E-10 upsets/bit-day
16 Mb HXNV01600	2M x 8 or 1M x 16	3.3V	Read: <95ns Write: 140ns	300k or 1Mrad(Si)/ 1E-10 upsets/bit-day
64 Mb HXNV06400	8M x 8 or 4M x 16	3.3V	Read: <100ns Write: 150ns	300k or 1Mrad(Si)/ 1E-10 upsets/bit-day

For over three decades, Honeywell radiation hardened components have been relied upon to perform exceptionally in radiation intensive environments. Nearly every major mission in space is successfully powered by Honeywell electronics. On August 6, 2012, “Curiosity”, the Mars Space Landing vehicle arrived safely with Honeywell’s rad hard SRAM and mixed signal ASICs aboard. Honeywell is committed to investing in your next generation technology, and continually enhances aerospace electronics to drive your systems faster, smarter, more reliably and efficiently than previous versions.

Long Term or Short Term Applications

- Store embedded processor and FPGA code
- Calibration coefficients
- Critical data recorders (black boxes)
- Re-writeable data log
- Encryption parameters
- Replaces “battery backed up” SRAMs

Honeywell MRAM Ready for Take Off

Contact a Honeywell sales representative in your area to benefit from the MRAM advantage. For more details, visit www.honeywellmicroelectronics.com to download datasheets and find a Honeywell representative.

Find out more

Learn more about Honeywell Microelectronics solutions at www.honeywellmicroelectronics.com

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