



## **Northrop Grumman Successfully Completes Qualification of a Radiation Hardened 1Mbit EEPROM Nonvolatile Memory**

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LINTHICUM, Md., March 23, 2015 /PRNewswire/ -- Northrop Grumman Corporation (NYSE: NOC) recently completed qualification testing of the W28C0108 1Mbit electrically erasable programmable read-only memory (EEPROM) semiconductor device for radiation-hardened space applications.

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Radiation hardened EEPROMs have long been used in space to hold critical mission data for decades without excessive shielding, rewrite circuits or climate controls.

Key features of the company's semiconductor device include latch-up immune operation in a space environment, greater than 10,000 endurance cycles, less than 250 nanosecond READ access time, 300 krad (Si) total ionizing dose and Joint Electron Device Engineering Council (JEDEC) pin-compatibility in the center 32 pins. The device is a 1Mbit, 128K x 8 bit CMOS (complementary metal oxide semiconductor) EEPROM, based on Northrop Grumman's existing 256 kB EEPROM part (W28C256) and operates across the full military temperature range.

Results indicate that memory retention at 125 degrees C will last for more than 200 years, which is well beyond the current state of the art for nonvolatile memory chips. The device was manufactured at Northrop Grumman's Advanced Technology Laboratories and was designed in cooperation with Sandia National Laboratories in Albuquerque, N.M.

The device underwent dynamic life testing at 150 degrees C for 1,000 hours, as well as heavy ion latch-up and other testing.

Northrop Grumman is currently taking orders for this product. A copy of the part qualification data package is available upon request via the Northrop Grumman [website](#).

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