Resources for Radiation Test Data

Martha V. O'Bryan1, Megan C. Casey2, Jean-Marie Lauenstein2, and Kenneth A. LaBel2

1. AS&D, Inc.; 2. NASA GSFC

Abstract: We present resources for aerospace engineers or spacecraft design engineers to use when searching for radiation test data.

Introduction

The performance of electronic devices in a space radiation environment is often limited by the effects of single-event effects (SEEs), which consist of soft errors (SEFIs), single-event functional interrupts (SEFIs), single-event latchup (SELS), single-event burnout (SEBs), single-event gate rupture (SEGRs), single-event transients (SETs), single-event functional interrupts (SEFIs), transient induced ionizing radiation (TID), and displacement damage (DD). A comprehensive database of radiation test results is essential for spacecraft design engineers. Information that can help engineers make design decisions is often not accessible to the aerospace engineer or spacecraft design engineer.

Resources for Radiation Test Data

National Aeronautics and Space Administration (NASA)/National Space Electronics Research Initiative (NORC) has a website called radhome.gsfc.nasa.gov that contains over 1,300 parts. The parts search interface allows narrowing search results based on over 60 criteria. The radhome search interface. Figure 2 shows how to access individual test reports.

Other Search Tools

Search engines such as Google can be useful for seeking specific information. However, even if specific search keywords may be necessary, it is often necessary to verify that the search is legitimate.

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Summary

This poster is intended to be a resource for current research methods. The authors of this poster should always be augmented with suggested for additional radiation test data resources.

References


Acronyms

- ELDERS: Engineering Life Data Evaluation System
- NASA: National Aeronautics and Space Administration
- NORC: National Space Electronics Research Initiative
- SEFIs: single event functional interrupts
- SELS: single-event latchup
- SEB: single-event burnout
- SEGR: single-event gate rupture
- SET: single-event transient
- TID: transient induced ionizing radiation
- DD: displacement damage