

Selection of Polymer Tantalum Capacitors for Class A Space Missions

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It has been more than 20 years since polymer tantalum capacitors were introduced. Designers have come to prefer polymer tantalum capacitors both because of their benign failure mode and extremely low ESR. Polymer tantalum capacitors have since successfully captured the bulk of tantalum capacitor sales. However, since circa 2010, it was found that these capacitors display very unusual leakage current characteristics under certain circumstances. This phenomenon has been termed anomalous charging current (ACC)¹ by Dr. Yuri Freeman. We will discuss the phenomena, describe various test results and characteristics, and finally recommend how the product may be successfully selected for Space applications.