

# **An update on non-hermetic Tantalum Polymer Capacitor Performance**

Ron Demcko, Slavomir Pala  
Kyocera-AVX

[ron.demcko@kyocera-avx.com](mailto:ron.demcko@kyocera-avx.com), [slavomir.pala@kyocera-avx.com](mailto:slavomir.pala@kyocera-avx.com)

Tantalum polymer capacitor technology has many attractive features to offer designers in all sectors ranging from consumer to Mil PRF and Space grade applications. In fact, the flight community has shown a great interest in using these devices. For example, Kyocera-AVX space grade polymers have successfully been used on the Indian space agency moon landing equipment.

This paper briefly recaps the need for Tantalum polymer advantages in flight applications. A detailed performance comparison between non-hermetic plastic encapsulated and hermetic TaPoly capacitors is made. Test and design comparisons are made between the range of alternate grade parts ranging from consumer, auto grade, COTs, MIL-PRF and space grade capacitors. A deep dive of performance and future of non-hermetic Tantalum Polymer capacitors is made including a preview of Low Inductance Bulk Capacitors. The expected flight performance of non-hermetic tantalum polymers is discussed and documented.