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Application Note Explains How COTS DC-DC Converters Achieve High Reliability

[VPT](#) has released a 10-page application note, AN009 4.0, titled “VPT Series DC-DC Converters and Power Accessory Modules,” which discusses the suitability of the company’s VPT series of high-reliability COTS dc-dc converters, EMI filters and accessories for military and other high-rel applications. The basic electrical specs of the dc-dc converters are discussed with respect to military power bus standards such as MIL-STD-704 and MIL-STD-1275; EMI filter modules are briefly described; and the power accessory modules offering power conditioning, transient suppression, and a high voltage bus converter are discussed with regard to their capabilities.

In one case, this includes the load dump requirement of ISO 7637-2 and DEF STAN 61-5. The application benefits of the dc-dc converters’ standard features are also discussed.

Two pages of the app note are devoted to details on the construction/packaging of the converters and by extension, the EMI modules and accessories. This section sheds light on the thermal and EMI properties of all these modules. The products in this series are designed with low-cost, commercial components. However, the design choices and assembly practices used in development and manufacturing of these modules determines their reliability as explained in this document.

The app note concludes by warning about the risks of using low-cost commercial or telecom converters in high-rel applications, and gives an overview of VPT’s experience and qualifications in supplying its power products to military programs. For more information, see the [application note](#). Or contact the company by calling 425-353-3010 or emailing vptsales@vptpower.com.