

New Electrical Double-layer Capacitors Offer a Longer Life Cycle

Murata Americas today announced the addition of the DMG series to the company's line of thin, low-resistance, electrical double-layer capacitors (EDLCs). The DMG supercapacitors, which provide high power back-up, achieve high reliability with a five-year life span at 70°C, making them an ideal choice for enterprise solid state drive (SSD) manufacturers and telecom last gasp applications. In addition, supercapacitors play a role in energy conservation applications, from memory backup in home appliances, mobile phones, information devices, and energy harvesting storage systems. Smart meters are also a key application for the DMG series as the full operating temperature range is -30°C to +85°C.

The innovation behind Murata's high performance DMG EDLC is based on active carbon technology. Unlike traditional energy storage devices, the carbon, which is used as an electrode, without employing a chemical reaction, leads to the longer life cycle. Also, the capacitance is directly related to the surface area of the active carbon, giving the DMG series high capacitance values in a small and low profile design. Measuring only 20.5mm x 18.5mm x 1.4mm, which leads the industry in compact packaging, Murata's EDLC series is designed for extended temperature applications.

The basis behind this new technology is the result of Murata's collaborations with CAP-XX. In order to meet consumer demand for mobile devices with greater efficiency and functionality, Murata strategically acquired leading edge super cap technology from CAP-XX in 2008. Since then, Murata's focus on EDLC research and development, coupled with CAP-XX's expertise, has lead to the maturity of the enhanced EDLC design.

In addition to the product's prolonged lifetime, high capacitance and high temperature range, Murata's DMG series offers high voltage with very low equivalent series resistance (ESR) all within a miniaturized, yet robust package. Available in 2.1V single-cell and 4.2V double-cell options, the 2.1V provides a nominal capacity of 700mF with a profile of only 1.4mm and an ESR at 1kHz 70m?. The 4.2V has a nominal capacity of 350mF at 2.8mm thickness and 130m? ESR at 1kHz.

"The high-reliability provided by Murata's DMG series fills a critical need within the SSD market and in products that promote environmentally sound lifestyles," stated Mark Waugh, business development manager for Murata Electronics North America. "Murata's prolonged life-span energy storage technology is advanced, providing superior quality and performance."

The DMG series, like all of Murata's EDLC's, are fully RoHS-compliant. Sample

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pricing for the 2.1V is \$5 and \$9 for the 4.2V. Lead-times range from stock to 8 weeks.

Murata Americas

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