Capacitor Simulation Tool Characterizes New High-Rel MLCCs

AVX has launched an updated version of its user-friendly SpiCAT online simulation tool, which enables the quick, easy, and accurate parametric characterization of various capacitor types, to cover four of AVX's new high-reliability, X7R MLCC series for demanding automotive, military, and space applications. These MLCC products include the FLEXISAFE automotive X7R MLCCs, the ESCC-approved X7R BME space MLCCs, the NASA-approved X7R BME space MLCCs, and the military- and space-level MIL-PRF-32535 X7R BME MLCCs (see the figure).

The FLEXISAFE MLCCs are engineered for safety-critical applications, including those in the automotive industry, and are rated for up to 100 V and capacitance values extending from 1 nF to 470 nF. They employ AVX's award-winning FLEXITERM layer, which protects ceramic components from mechanical stress damage resulting from PCB assembly or harsh-environment operation, as well as a cascade electrode design that protects them from low insulation resistance failures resulting from thermal stress, repetitive ESD strikes, and placement damage.

AVX's surface-mount, base-metal-electrode (BME) MLCCs use leading-edge technology in MLCC construction and processing to deliver high-reliability performance with superior capacitance voltage capabilities compared to conventional precious-metal-electrode (PME) technologies. Qualified to rigorous industry standards including ESCC 3009, ESCC 3009/034, ESCC 3009/041, NASA S311-P838, and MIL-PRF-32535, these high-reliability X7R MLCCs support critical, board-level size and weight reductions in size-, weight-, and power-sensitive (SWaP-sensitive) applications including satellites and launch vehicles.

"AVX strives to provide both the best possible component solutions for an extensive array of high-tech electronics applications, as well as the most effective customer support spanning component selection through design-in and even eventual maintenance and replacement. The latest update of our user-friendly SpiCAT simulation software, which featured the addition of several high-reliability X7R MLCC product lines, is just the latest example of these continued efforts," said Neil Smyth, product marketing director, AVX.

Added Smyth, "Our newly updated SpiCAT software will better support customers' design processes by providing quick, easy, and accurate parametric characterization for an even more extensive range of surface-mount MLCC, tantalum, polymer, and niobium oxide capacitors and multilayer varistors."

The interactive online tool groups various product series by common application features to simplify, ease, and hasten the capacitor selection process and allows design engineers to review the electrical characteristics for individual part numbers with respect to temperature and frequency to ensure optimal application-specific selections.

For more information about the SpiCAT simulation tool, see the AVX website.

Figure. An update to AVX's SpiCAT online simulation tool enables it to characterize the company's FLEXISAFE automotive X7R MLCCs, the ESCC-approved X7R BME space MLCCs, the NASA-approved X7R BME space MLCCs, and the military- and space-level MIL-PRF-32535 X7R BME MLCCs.