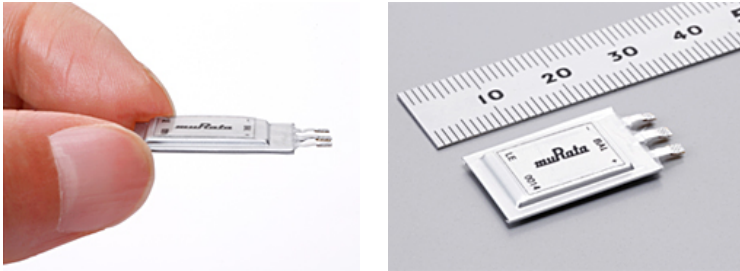


Murata has developed world's thinnest Electric Double-Layer Capacitors

September 24, 2012

Murata Manufacturing Co., Ltd.
President/Statutory Representative Director: Tsuneo Murata



KYOTO, Japan—in October 2012, [Murata Manufacturing Co., Ltd.](#) (TOKYO: 6981) (ISIN: JP3914400001) will start mass production of the world's thinnest electric double-layer capacitors (DMF Series) featuring low resistance and the highest levels of power density throughout the industry, a benefit when used as an auxiliary power supply for LED flash units.

Murata will exhibit the DMF series in booth (8Hall 8F87) at CEATEC JAPAN 2012, which will be held at Makuhari Messe, Chiba Prefecture, between October 2 and 6, 2012.

Electric double-layer capacitors are capable of storing energy with physical adsorption of the ion on the surface of active carbon without using chemical reactions, which makes them devices that are not only able to semi-permanently repeat electrical charging and discharging in comparison with normal rechargeable batteries, but also able to be charged and discharged rapidly. They also do not use lead or any other toxic substances, and because of this they are attracting much attention as storage devices that conform to the Restriction of Hazardous Substances Directive (RoHS) covering electric and electronic equipment established by the European Union, etc., thereby placing minimal burden on the environment.

Murata acquired this technology from Australia's CAP-XX Ltd. ; the business partnership established in 2008 has resulted in Murata manufacturing the DME series of electric double-layer capacitors since December 2010.

The DMF series features an optimized internal configuration to realize a design approximately 30% more compact than the DME series, making the DMF it the thinnest of its type in the world. The DMF also features the highest levels of power density in the industry and the same low resistance of a few dozen milliohms and stable temperature characteristics as the DME series, enabling it to be charged and discharged flexibly through high-output and low-output areas in a wide variety of temperature ranges. The capacitors can be used as the power supplies for camera flashlights utilizing high-intensity LEDs, and will contribute to improving the brightness of LED flashlights on not only digital cameras, but also on smartphones.

Features

1. The ESR (Equivalent Series Resistance) is low, 40m ohms to 90m ohms, which enables high-current and high-output charging and discharging
2. Operating temperature range of -30°C to +70°C.
3. 30% smaller than the DME series and the world's thinnest.

Applications

1. Auxiliary power source for LED flash units used in digital cameras, digital video cameras and cell phones.
2. Peak output assistance to reduce battery load variations.
(Restrains load variations in high-output communication (GSM) and audio output batteries.)
3. Peak output assistance when operating compact smart meter motors.
4. Peak output assistance for USB bus power*.
5. Combining the DMF capacitors with various power devices provides a life-cycle of 100,000 cycles or more and enables it to be used as a maintenance-free power storage element.

Terminology

* **USB bus power:** A system in which power is supplied from a computer to peripheral equipment with the use of a USB cable.

Part Numbers

Part No.	Instantaneous Maximum Permissible Voltage	Nominal Capacity	ESR@1kHz	Thickness (t)
DMF3J5R5P224M3DTA0	5.5V	220mF	90mΩ	1.8mm ±0.2mm
DMF3R5R5L334M3DTA0	5.5V	330mF	60mΩ	2.5mm ±0.2mm
DMF3Z5R5H474M3DTA0	5.5V	470mF	40mΩ	3.2mm ±0.2mm

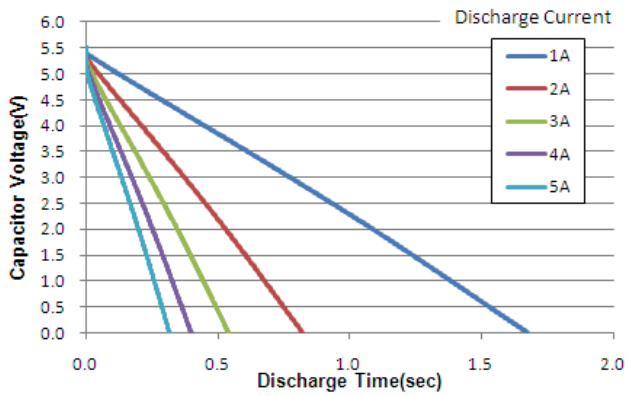
*The capacity line-up is scheduled to be expanded to 1F in the future.

*Operating temperature range: -30°C to +70°C

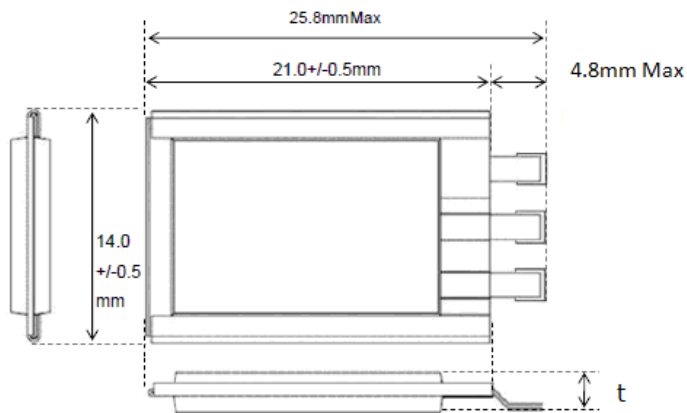
Electric characteristics

Discharge Characteristic

DMF3J5R5P224M3DTA0



External Size



Production

Mass production to commence at the Fukui Murata Manufacturing Co., Ltd. from October 2012 (400,000 units/month.)

Sample Price

300 yen/piece

Murata in Brief

Murata Manufacturing Co., Ltd. is a worldwide leader in the design, manufacture and sale of ceramic-based passive electronic components & solutions, communication modules and power supply modules. With annual revenues of ¥585 billion (~\$7.1B USD), Murata is committed to the development of advanced electronic materials and leading edge, multi-functional, high-density modules. The company has employees and manufacturing facilities throughout the world. For more information, visit Murata's website at <http://www.murata.com/>

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