

For immediate release

TAIYO YUDEN Commercializes 05025-Size Multilayer Ceramic Capacitor
Achieving a capacitance of 1 μ F and a 42% smaller size than the 0603-size capacitor



TOKYO, July 13, 2017—TAIYO YUDEN CO., LTD. announced today the commercialization of the AMK052 BJ105MR, a 05025-size (0.5 x 0.25 x 0.25 mm) multilayer ceramic capacitor with a capacitance of 1 μ F.

This product is used in decoupling applications for power supply lines to ICs in devices requiring increased thinness and multi-functionality such as smartphones, or small, thin devices such as wearable devices.

The capacitance enhancement technique that TAIYO YUDEN has nurtured enables the world's smallest class 05025-size capacitor to achieve a capacitance of 1 μ F at a size that is 42% smaller than its conventional product, the AMK063ABJ105MP (0.6 x 0.3 x 0.3 mm).

Mass production of this product began in June 2017 at our Tamamura plant (Tamamura-machi, Sawa-gun, Gunma Prefecture, Japan) at a rate of 10 million units per month, with a sample price of 25 yen per unit.

Technology Background

Multilayer ceramic capacitors are placed near ICs mounted in smartphones or wearable devices for the purpose of decoupling. In accordance with the need for reduced size and thickness of devices and multi-functionality, the decreased mounting area has resulted in growing demand for further size and thickness reduction for electronic parts used in these devices. Furthermore, multilayer ceramic capacitors used for decoupling are required to be smaller, while maintaining a large capacity to stably drive ICs.

To address this market need, TAIYO YUDEN has commercialized the 05025-size multilayer ceramic capacitor, which is 42% smaller than its conventional 0603-size capacitor—a minimum-sized capacitor with a capacitance of 1 μ F—, by sophisticating the conventional capacitance enhancement technique and refining material and multilayer techniques.

Moving forward, we will continue to make our multilayer ceramic capacitors even smaller and thinner, as well as enhance their capacitance in response to market demand.

■ Application

Decoupling applications for power supply lines to ICs in devices requiring decreased size and increased thinness such as smartphones and wearable devices

■ The characteristics of the 05025-Size multilayer ceramic capacitor is as shown below.

Part number	Capacitance	Temperature characteristics	Rated voltage	Length [mm]	Width [mm]	Thickness [mm] max.
AMK052 BJ105MR	1 μ F	X5R	4V	0.5 \pm 0.025	0.25 \pm 0.025	0.25 \pm 0.025