

For Immediate Release

**TAIYO YUDEN Commercializes World's First 1005-Size Metal Power Inductor**  
*Over 60% Smaller than Our Conventional Products, Contributing to the Development of Smaller Wearable Devices*



TOKYO, October 10, 2018—TAIYO YUDEN CO., LTD. announces the expansion of its line-up of the metal multilayer chip power inductor MCOIL™ MC series, which uses a metallic magnetic material, as well as the commercialization of the world's smallest metal power inductor MCEE1005 (1.0 x 0.5 x 0.55 mm, maximum height).

This power inductor is used as a power choke coil in power supply circuits for wearable devices, smartphones, and IoT devices.

By sophisticating our material and multilayer techniques, TAIYO YUDEN has successfully commercialized the world's first 1005-size metal power inductor, achieving a volume that is over 60% smaller than our conventional product, MCFK1608 (1.6 x 0.8 x 0.6 mm), and will contribute to developing smaller and thinner mobile devices such as wearable devices.

Production of the product started at our subsidiary company, WAKAYAMA TAIYO YUDEN CO., LTD. in Japan's Wakayama prefecture from September 2018 at a production rate of 10 million units per month. The sample price is 50 yen per unit.

### Technology Background

Today's market for smartwatches, wristband-type wearable devices, and IoT devices like sensor network devices requires not only reduced size and thickness but also highly efficient power supply circuits for longer operating time. While smartphones are getting thinner, they use higher-speed processors for higher performance and multi-core processors for higher efficiency. Since high-speed multi-core processors, which are driven by lower voltage and larger current, use appropriate cores in accordance with processor load, each core is equipped with a dedicated power supply circuit, which requires small and thin power inductors with a large current capacity.

To address this market need, TAIYO YUDEN has commercialized its metal multilayer chip power inductor MCOIL™ MC series, which uses a metallic magnetic material with high DC bias characteristics and has the advantage of being small and thin. We have now successfully commercialized the world's first 1005-size metal power inductor, MCEE1005, which achieves a volume that is over 60% smaller compared to our conventional product, MCFK1608.

TAIYO YUDEN will continue to meet market needs and enhance its product lineup by increasing functionality, improving reliability, and reducing thickness.

\* “MCOIL” is a registered trademark or a trademark of TAIYO YUDEN CO., LTD. in Japan and other countries.

■ Application

Power choke coils application in power supply circuits used in wearable devices, smartphones, and IoT devices

■ Characteristics

Product name	Inductance [μH]	Inductance allowance	DC resistance [mΩ] max.	Rated current [A] max.	
				DC saturation allowable current	Temperature rise allowable current
MCEE1005TR10M	0.10	±20%	50	2.0	2.0
MCEE1005TR22M	0.22		80	1.6	1.6
MCEE1005TR47M	0.47		140	1.2	1.2
MCEE1005T1R0M	1.00		300	1.0	0.8