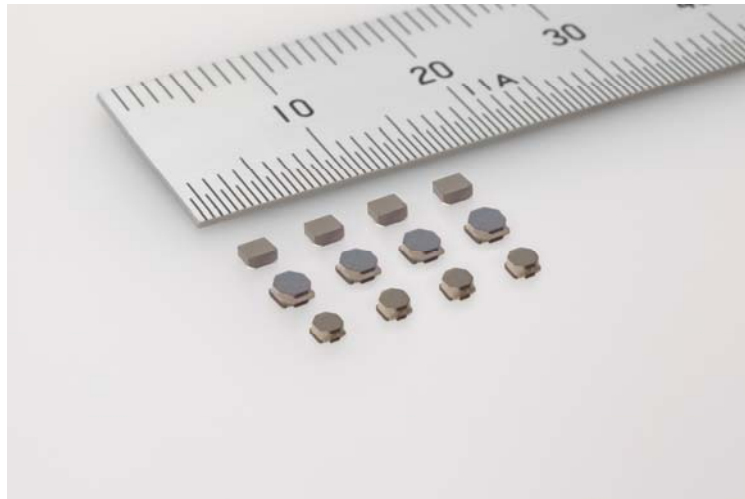


For immediate release

## **TAIYO YUDEN Announces New Low Profile Enhancements to its Metal Power Inductors MCOIL™ Product Line-up**

*With a thickness of just 1.0mm, these products address the miniaturization and increased low profile requirements for mobile devices such as smartphones*



TOKYO, December 17, 2012 - TAIYO YUDEN CO., LTD. announced today the commencement of production of newly enhanced low profile products for its metal power inductors MCOIL™. These products include 1.6mm square metal core SMD power inductor MDKK1616 (1.64 x 1.64 x 1.0mm), a 2.0mm square metal core SMD power inductor MDKK2020 (2.0 x 2.0 x 1.0mm), and the EIA0806 size metal core wire-wound chip power inductor MKK2016 (2.0 x 1.6 x 1.0mm). The height value indicated is the maximum value for each of the products, which achieves a thickness of just 1.0mm.

These products are power inductors for choke coil applications in the power supply circuits of digital devices, such as small mobile devices including smartphones and tablet PCs, as well as SSDs, which are becoming further miniaturized and have an increasingly low profile with an ever-increasing performance requirement. By combining TAIYO YUDEN's own metallic magnetic materials and advanced process technology, we have added to our product line-up of low profile products which meet the rigorous demands of the market while maintaining industry-leading DC bias characteristics.

As a response to the surge in demand for these products preparation for production from December 2012 onward is now underway at the company's Nakanojo plant (Nakanojo-machi, Agatsuma-gun, Gunma prefecture). The planned production rate is 170 million units per month for the entire series of metal power inductors MCOIL™. The sample price is 50 yen for each of the sizes.

## Technology Background

To achieve both high performance and high efficiency, processors in mobile devices, as typified by smartphones, continue to have increasingly high speed drives and are increasingly multi-core. In such processors, power supply circuits must be installed that can support large currents in each core. Our designs achieve this while also achieving miniaturization and a decreased thickness. And, there is a growing requirement for miniaturizing and decreasing the profile of the components employed.

There is an inherent problem with power inductors which use conventional ferrite materials where the DC bias characteristic drops with miniaturization, which no longer allows a large current to flow. And, the effect of noise caused by the leakage flux generated from the power inductor on the surroundings has also become an obstacle to high density packaging.

To meet these critical challenges, TAIYO YUDEN has developed a new molding process for metallic magnetic materials which can significantly improve the DC bias characteristics. TAIYO YUDEN has also developed the process technology fostered through the NR series of products. These products have a proven track record as SMD power choke coils. In addition, TAIYO YUDEN has developed metal power inductors MCOIL™, which reduce leakage flux and provide for both a large current and miniaturization with a low profile.

In the future, we will concentrate on the development of compact, low profile super high-end products, which will meet market needs for smartphones and other such mobile devices. We will push forward with the product launch of other metal power inductors MCOIL™ as well.

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

## ■ Applications

Choke coil applications for the power supply circuits in digital devices that include small mobile devices, such as smartphones and tablet PCs, as well as SSDs.

The characteristics of the Metal Power Inductors (MCOIL™) released this time are as follows. (17 models)

Parts number	Nominal inductance [μH]	Inductance tolerance	DC Resistance [mΩ] max.	Rated current [mA] max.	
				Saturation current	Temperature rise current
MDKK1616T R47MM	0.47	±20%	95	3300	1500
MDKK1616T 1R0MM	1.0		140	2200	1200
MDKK1616T 1R5MM	1.5		185	1750	1100
MDKK1616T 2R2MM	2.2		250	1500	950
MDKK1616T 3R3MM	3.3		515	1150	650
MDKK2020T R47MM	0.47	±20%	46	3500	2200
MDKK2020T R68MM	0.68		60	3150	2000
MDKK2020T 1R0MM	1.0		85	2900	1700
MDKK2020T 1R5MM	1.5		133	1900	1350
MDKK2020T 2R2MM	2.2		165	1650	1200
MDKK2020T 3R3MM	3.3		275	1300	940
MDKK2020T 4R7MM	4.7		435	1050	750
MDKK2020T 100MM	10		690	750	630
MAKK2016T R47M	0.47	±20%	46	3200	2800
MAKK2016T 1R0M	1.0		75	2200	2200
MAKK2016T 2R2M	2.2		160	1500	1500
MAKK2016T 3R3M	3.3		255	1150	1200