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# TAIYO YUDEN

For Immediate Release

## **TAIYO YUDEN Adds a New MB Series to its Metal Power Inductor MCOIL**<sup>™</sup> Offering a Low-cost MCOIL<sup>™</sup> Solution in Response to the Rapidly Increasing Market Demand for Low-priced Smartphones



TOKYO, October 29, 2013 — TAIYO YUDEN announces the addition of a new MB series to its metal power inductor MCOIL<sup>TM</sup>, and the commercialization of the EIA 0603 size "MBKK1608" (1.6 x 0.8 x 1.0mm), EIA 0805 size "MBKK2012" (2.0 x 1.2 x 1.0mm), and EIA 1008 size "MBMK2520" (2.5 x 2.0 x 1.2mm, the maximum height value in each size).

This product is a power inductor for choke coil applications developed for the use in power circuits used on small mobile devices such as smartphones and tablet devices. TAIYO YUDEN has been able to further its proprietary metallic magnetic material technology capabilities by making full use of the material, technology, and equipment developed with the "BR series". This new product uses ferrite material and a balance is struck between the high DC bias characteristic, which is a key feature of the metal power inductor MCOIL<sup>TM</sup>, and low cost. This puts TAIYO YUDEN in a strong position with a low cost product allowing us to further contribute to the rapidly expanding market of low-priced smartphones.

Production will commence at Chuki Seiki Co., Ltd. in Japan's Wakayama prefecture from October 2013 onward at a production rate of 10 million units per month for "MBKK1608" and "MBKK2012", and within this year for "MBMK2520", with a sequential production increase planned for the entire MB series. The sample price is 30 yen per unit for both "MBKK1608" and "MBKK2012".

## **Technology Background**

The market for electronic components is driven by the need for reduced size and improved performance in support of small mobile devices such as smartphones. Power inductors used in power circuits are also required to be smaller and thinner while the DC bias characteristic of these components requires constant improvement.

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The need to reduce cost along with a reduction in size and improvement in performance continues to be a key challenge that TAIYO YUDEN faces in supporting the low-priced smartphone market, where we see world-wide demand rapidly increasing, particularly in the Chinese region.

TAIYO YUDEN has combined the technology cultivated through the "BR series". This technology utilizes TAIYO YUDEN's conventional ferrite material with the metal power inductor MCOIL<sup>TM</sup> that has an extremely high DC bias characteristic along with a small and thin structure. In addition to these leading edge technological advancements in metal power inductors we have reduced costs through efficiencies and strategic new business investments in production processes. And, we have further achieved a high DC bias characteristic result, as compared to our conventional product "BR L2012T1R0M" (inductance value of 1.0  $\mu$ H and a DC bias characteristic of 850 mA), there is an improvement of almost 70% in the DC bias characteristic (1450 mA at the same inductance value). This is a key feature of the metal power inductor MCOIL<sup>TM</sup>.

TAIYO YUDEN remains committed to furthering our focus on the development of super high-end products having a small size and a low profile that can meet the market demands of small mobile devices typified by smartphones and tablet devices and we will actively promote the product development of the metal power inductor MCOIL<sup>TM</sup>.

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

## ■ Application

Choke coil applications for power supply circuits of thin mobile devices typified by smartphones and tablet devices.

Part number	Nominal	DC	Saturation current [mA] (typ)	Temperature rise
	inductance	resistance		current
	[µH]	[Ω] (typ)		[mA] (typ)
MBKK1608T1R0MM	1.0	0.130	900	1250

[Metal core, wire-wound Chip Power Inductor: MB Series] An example of Characteristics of MBKK1608

\* The lineup of the nominal inductance value ranges from 0.24  $\mu$ H to 4.7  $\mu$ H.

#### An example of characteristics of MBKK2012

Part number	Nominal	DC	Saturation current [mA] (typ)	Temperature rise
	inductance	resistance		current
	[µH]	[Ω] (typ)		[mA] (typ)
MBKK2012T1R0MM	1.0	0.092	1450	1550

\* The lineup of the nominal inductance value ranges from 0.24  $\mu$ H to 4.7  $\mu$ H.

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