

For immediate release

TAIYO YUDEN Announces the Commercialization of a 4mm Square Metal Power Inductor “MCOIL™”

1.2mm Thickness Ideally Suited to Tablet PCs and Ultrabook™ Devices



TOKYO, July 19, 2012 — TAIYO YUDEN CO., LTD. today announced the commercial release of the new “MDMK4040” (4.0 x 4.0 x 1.2mm, the maximum height value), following the commercialization of a 4mm square metal core SMD power inductor “MCOIL™” series that use metallic magnetic materials.

This product is a power inductor for choke coil applications aimed at the power circuits of low profile digital devices, such as the Note PCs, as typified by the tablet PC and Ultrabook™ device, with their continuing trend for small size, low profile and high performance. Through the integration of TAIYO YUDEN’s own metallic magnetic material technology and advanced process technology, this is a super high-end product which combines both a industry leading DC bias characteristic with a smaller, lower profile size. “MDMK4040T2R2” (with an inductance value of 2.2μH and a DC bias characteristic of 4500mA), compared to the company’s conventional product “NRS4012T 2R2” of the same inductance value (with a DC bias characteristic of 1650mA), represents an improvement in the DC bias characteristic of approximately 2.7 times, which is a great contribution to the higher performance of the device.

Production has been commenced since July, 2012, at the company’s Nakanojo plant (Nakanojo-machi, Agatsuma-gun, Gunma prefecture) at an output pace of 10 million units per month. The sample price is 50 yen per unit.

Technology Background

With the Note PCs typified by the tablet PC and the Ultrabook™ device, along with the increasing high performance of devices, an extremely large number of functions must be installed in a small scale, low profile housing. Accompanying this, for the choke coils of power supply circuits as well, there are strong demands to deal with both the large currents (which are due to the continuing growth of power supply circuits and the increasing high performance of ICs), and the smaller sizes/profiles. However, for the choke coils which used conventional ferrite materials, the DC bias characteristic dropped with increasing miniaturization, and it was impossible to get large currents to flow.

Accordingly, while newly developing metallic magnetic materials capable of greatly improving the DC bias characteristic, and combining this with the process technology which has been cultivated for the SMD power inductor through the proven NR series, TAIYO YUDEN has commercially released the 4mm square SMD power inductor “MDMK4040”, which handles both larger currents and copes with the smaller sizes and lower profiles. Having already released the 2mm square SMD type “MDMK2020”, and the chip type “MAMK2520” in May of this year, they have received a lot of favorable reviews as products suitable for smartphones.

To meet market demands in the future as well, we are continuing to focus on the development of super high-end products which are both small scale and low profile, and will actively promote the product development of “MCOIL™” which uses metallic magnetic materials.

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

*“Ultrabook” is a trademark of Intel Corporation in the U.S. and/or other countries.

■ Applications

In choke coil applications for the power supply circuits of low profile digital devices such as Note PCs which are typified by the tablet PC and the Ultrabook™ device.

Metal Core SMD Power Inductor MCOIL™ MDMK4040 Series Lineup

Ordering code	Inductance [μ H]	DC Resistance [m Ω] _{max.}	Rated current [mA]	
			Saturation current	Temperature rise current
MDMK4040TR47M	0.47	25	10000	5400
MDMK4040T1R0M	1.0	41	7500	4200
MDMK4040T1R2M	1.2	41	6200	4200
MDMK4040T1R5M	1.5	56	5400	3600
MDMK4040T2R2M	2.2	80	4500	2900