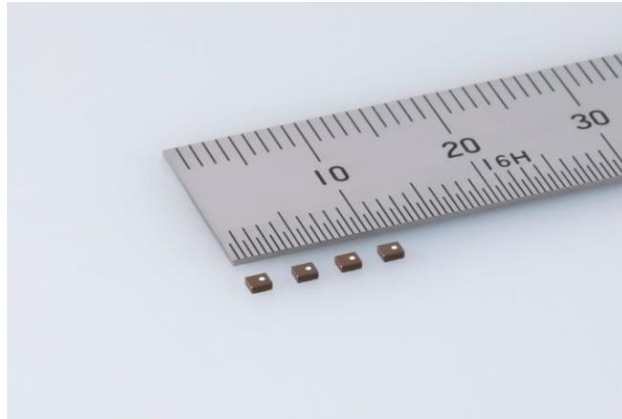


**TAIYO YUDEN Expands Lineup of Multilayer Metal Power Inductors for Smartphones**  
*20% improvement in DC superposition characteristics and 10% reduction in DC resistance compared to previous models*



TOKYO, July 24, 2024 — TAIYO YUDEN CO., LTD. has begun mass production of three products, including the LSCND1412FETR47ME (1.4 x 1.2 x 0.65 mm; maximum height shown), in its MCOIL™ LSCN series of multilayer metal power inductors.

These power inductors are for use as choke coils in the power circuits of smartphones. Retaining the same form factor as our previous product "LSCND1412FETR47MC" (1.4 x 1.2 x 0.65 mm), the DC superposition allowable current of our new "LSCND1412FETR47ME" has been increased by 20% to 3.6 A (previously 3.0 A), and its DC resistance has been reduced by 10% to 38 mΩ (previously 42 mΩ). These improvements contribute to boosting the performance of power supply circuits in smartphones, which are becoming increasingly sophisticated and multifunctional.

Mass production of these products commenced in May 2024 at our subsidiary WAKAYAMA TAIYO YUDEN CO. LTD. (Inami-cho, Hidaka-gun, Wakayama Prefecture, Japan). Samples are available for 50 yen per unit.

**Technology Background**

Smartphones are becoming increasingly sophisticated, with capabilities such as AI-based image and video editing, as well as voice and text translation. At the same time, there is demand for greater efficiency in order to keep their body small, and achieve long operating times with limited battery capacity. To achieve both high performance and high efficiency, a smartphone’s processor operates at high speeds with low voltage and high current, and employs a multi-core configuration where each core is equipped with its own power supply circuit, allowing it to improve both its processing power and efficiency by switching the cores used depending on load. This trend in power supply circuits has become particularly pronounced in cutting-edge smartphones, which require both high performance and high efficiency, and in recent years has led to an increase in the adoption of small and thin low-inductance power inductors capable of handling large currents.

To address these needs, at TAIYO YUDEN we have been using metallic magnetic materials with high DC superposition characteristics to optimize the design and other aspects of our MCOIL™ LSCN series multilayer metal power inductors—which have the advantage of allowing them to be made more compact and thinner—commercializing three products, including “LSCND1412FETR47ME,” which deliver 20% greater DC superposition allowable current and 10% smaller DC resistance compared to our previous products.

In response to market needs, we will continue to expand and improve our product lineup with higher functionality and reliability, as well as smaller and thinner products.

■ Application

For use as a choke coil for power circuits in smartphones and other devices.

■ Characteristics

Part number	Size (LxW) [mm]	H [mm] max.	Nominal inductance [μH]	Inductance tolerance [%]	Rated current* <sup>2</sup> [A] max.		DC resistance [mΩ] max.
					Saturation current Idc1* <sup>1</sup>	Temperature rise current Idc2* <sup>2</sup>	
LSCND1412FETR24MG	1.4x1.2	0.65	0.24	±20	5.5	4.3	0.024
LSCND1412FETR33ME			0.33	±20	5.4	3.7	0.032
LSCND1412FETR47ME			0.47	±20	3.6	3.4	0.038

\*1 The saturation current value (Idc1) is the DC current value having inductance decrease down to 30%. (at 20°C)

\*2 The temperature rise current value (Idc2) is the DC current value having temperature increase up to 40°C. (at 20°C)

\*3 The rated current value is following either Idc1(max) or Idc2(max), which is the lower one.

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

\* The names of series noted in the text are excerpted from part numbers that indicate the types and characteristics of the products, and therefore are neither product names nor trademarks.