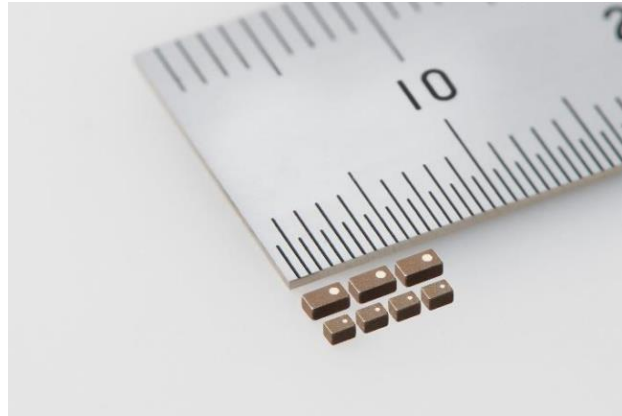


TAIYO YUDEN Expands Lineup of Multilayer Metal Power Inductors for Wearable Devices
High inductance in the 1006 size and a roughly 50% reduction in volume contribute to the miniaturization of devices



TOKYO, July 14, 2024 —TAIYO YUDEN CO., LTD. has begun mass production of two sizes and two products in the MCOIL™ LSCN series of multilayer metal power inductors, including the "LSCND1006HKT2R2MF" (1.0 x 0.6 x 0.8 mm; maximum height shown).

These power inductors are for use as choke coils in the power supply circuits of wearable devices such as TWS devices and smart watches, which require ultra-compact size and high performance. The "LSCND1006HKT2R2MF" is approximately 50% smaller in volume than our previous product, the "LSCNB1608HKT2R2MD" (1.6 x 0.8 x 0.8 mm), and contributes to the miniaturization of these devices.

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

Technology Background

Wearable devices need to be compact, deliver high performance, and operate for long periods of time. In particular, TWS devices require enhanced functionality, such as noise canceling, support for high-resolution audio, and advanced sensors for detecting when the earphone is worn or taken off, as well as acquiring location information.

For this reason, power supply circuits must be both compact and highly efficient, and these circuits require compact and high-inductance power inductors that are capable of handling large currents, while also having low DC resistance.

To address these needs, at TAIYO YUDEN we have been using metallic magnetic materials with high DC superposition characteristics to expand our lineup of MCOIL™ LSCN series of multilayer metal power inductors which have the advantage of allowing them to be made more compact and thinner. With our latest upgrade, we have commercialized the "LSCND1006HKT2R2MF," which has a volume approximately 50% smaller than our previous product, the "LSCNB1608HKT2R2MD" (1.6 x 0.8 x 0.8 mm), while maintaining a DC superposition allowable current of 0.8 A and achieving a low DC resistance of 375 mΩ.

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 wearable devices such as TWS devices and smart watches.

■Characteristics

Part number	Size (LxW) [mm]	H [mm] max.	Nominal inductance [μH]	Inductance tolerance [%]	Rated current* ³ [A] max.		DC resistance [mΩ] max.
					Saturation current Idc1* ¹	Temperature rise current Idc2* ²	
LSCND1006HKT2R2MF	1.0x0.6	0.8	2.2	±20%	0.8	0.6	0.375
LSCND1608HKT2R2MF	1.6x0.8	0.8	2.2	±20%	1.3	1.4	0.250

*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.