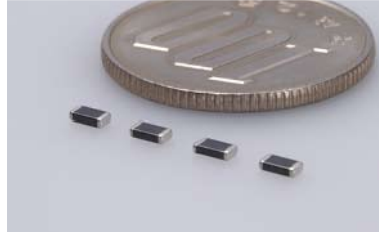


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Taiyo Yuden: Launching 0.9mm Low Profile Multilayer Chip Inductor for Choke Coils

Achieves 1A-class high current, useful for thinner, multifunction equipment



Taiyo Yuden has now developed and put on the market the world's thinnest multilayer chip inductor, the CKP3216 (3.2 x 1.6 x 0.9mm, thickness is the maximum value), used as choke coils for DC-DC converters. In addition to achieving a thickness of 0.9mm, or less than 1mm, it also achieves a 1A-class high current, boosting the rated current ranging from 0.7A (at the inductance of 4.7 μ H) to 1.1A (at 1.0 μ H).

In the portable digital equipment market, the trend toward smaller, thinner, advanced-function, and multi-function equipment is accelerating. In cell phones, for example, the progress toward advanced and multiple functions is expected to lead to the market appearance of handsets that include a HDD (hard disk drive) before the end of this year. In addition, portable music players with HDD, where the market has been prominently growing, are becoming thinner and more compact, as well as incorporating such advances as voice recorders and larger color LCD (Liquid Crystal Display) screens. As a result, such advanced and multiple function equipment strongly demands smaller, thinner parts.

In response, Taiyo Yuden developed a thinner choke coil for DC-DC converters that are usually mounted in multiple locations within a single electronic device. Taiyo Yuden boasts a high level of technology for development of multilayer products, as evidenced by its long history of multilayer ceramic capacitors, multilayer chip inductors, and other similar products. Based on this multilayer technology, Taiyo Yuden has developed and placed on the market the low profile multilayer chip inductor CKP3216 for use in DC-DC converter choke coils, targeting the need for high-performance multi-function yet smaller and thinner equipment.

To achieve this product, Taiyo Yuden improved its internal electrode printing technology, and successfully boosted the aspect ratio and thickened the internal conductor (increased the ratio of thickness to line width). The internal conductor thickness is double that of the previous generation of multilayer chip inductors (comparison with previous Taiyo Yuden products), for lower DC resistance. In addition, Taiyo Yuden used its own proprietary technology to prevent inductance drop while high current is applied, which is an essential characteristics for high current applications. The result was successful commercialization of the CKP3216, a multilayer chip inductor less than 1mm in thickness, and allowing high current from 0.7A (at 4.7 μ H) to 1.1A (at 1.0 μ H).

Taiyo Yuden intends to continue its efforts, based on its high level of multilayer technology and other technologies, to develop thinner, smaller, and higher performance multilayer chip inductors for choke coils.

Mass production of the new CKP3216 product began in March at the Tamamura Plant in Gunma Prefecture, with a monthly production capacity of 1 million units. The sample price is 20 yen per unit.

The specifications for the new low profile multilayer chip inductor CKP3216 for choke coil applications are as follows.

(The size for all products is 3.2 x 1.6 x 0.9mm, thickness is the maximum value)

Part Number	Inductance [1MHz] (μH)	Rdc (Ω)	Rated current (A)
CKP3216 1R0	1.0±20%	0.11	1.1
CKP3216 1R5	1.5±20%	0.13	1.0
CKP3216 2R2	2.2±20%	0.14	0.9
CKP3216 3R3	3.3±20%	0.16	0.8
CKP3216 4R7	4.7±20%	0.20	0.7