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Introduction of New Wire Wound Power Inductor Product Completes Low Profile Lineup

Fully Covers DC-DC Converter Applications in Portable Digital Equipment



Taiyo Yuden has launched the NR3012 (3 x 3 x 1.2 mm), a 3-mm square type with height of 1.2mm, adding the new series to the low-profile wire wound power inductor NR series for power circuit applications. Previously, the 3-mm square type was available in only two types, the NR3010 (3 x 3 x 1.0 mm) used mainly in cell phones, and the NR3015 (3 x 3 x 1.5 mm) used mainly in digital still cameras. Now, the NR3012 offers the highest conversion efficiency (low Rdc) and rated current in the industry for similar applications and shapes. The advent of this new product enables the NR series to cover virtually all DC-DC converter applications for compact portable digital equipment.

The main characteristic of the NR series is its simple and sleeveless structure. Such a structure, which successfully eliminates all wasted space, serves to thicken the lead wire inside the inductor, to achieve a low Rdc. The result is excellent voltage conversion efficiency for effective utilization of power supplies for equipment with limited battery capacity. In addition, the sleeveless structure realizes high resistance to mechanical shocks, which is an essential characteristic for cell phones. In the drop test of hand sets, it scored well with extremely low failure rate of cracking, disassembling, or parts falling off the print circuit board. As a result, Taiyo Yuden has decided to greatly expand production volume for the NR series. Total production for three 4-mm square types and three 3-mm square types is set to double to 15 million units per month at the company's plant in Philippines beginning in April. Sample price for the new product is 30 yen per unit.

Since multifunctional capability in compact portable digital equipment (cell phones, PDAs, digital still cameras, digital camcorders, etc.) is progressing rapidly, using multiple number of ICs in a single device has become common. Consequently, there is an increasing need for inductors used in DC-DC converter circuits that are capable of converting battery-supplied current into voltages suitable for the differing voltage requirements of various ICs. In addition, advances in camera function, color LCDs and other features are boosting demand for parts used to allow high current. Furthermore, the IC's height leads to requirements for low-profile in surrounding parts. In response to these demands, Taiyo Yuden developed a wire wound power inductor that meets requirements for low-profile and high current, and as well as low Rdc. The arrival of this new product on the market completes the full lineup for compact digital equipment. Customers can now take advantage of NR series with the ease of selections for small case sizes, low profile, low Rdc, and high current for wide range of applications



The NR series lineup is as follows. (For inductance value of 10 μ H (Note 4))

Part Number	Size	DC resistance	Rated current
	mm	(Ω)	(mA) max.
NR4010	4.0 x 4.0 x 1.0	0.33	580
NR4012	4.0 x 4.0 x 1.2	0.24	740
NR4018	4.0 x 4.0 x 1.8	0.18	840
NR3010	3.0 x 3.0 x 1.0	0.45	470
NR3012 *	3.0 x 3.0 x 1.2	0.31	550
NR3015	3.0 x 3.0 x 1.5	0.23	700

* indicates the new product.

