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Taiyo Yuden: More Variation in Wire Wound Power Inductors for Flat TVs

－2.8mm Size Added to NR60 Series, for Lineup That Meets Market Needs －

Taiyo Yuden Co., Ltd. has added a new product with height 2.8mm, the NR6028 (6.0x6.0x2.8mm, height is maximum value), to its wire wound power inductor NR60 series lineup used as choke coils in LCD TVs and plasma TVs. This product improves the rated current by about 36% over previous Taiyo Yuden products (inductance 10μH).

Taiyo Yuden shrank the size of the choke coil to develop the much-lauded NR series as a product in response to demands for reduced mounting area for printed circuit boards in flat TVs. Development of a series for choke coils that covers a broad range of characteristics was needed to enable selection of the optimum choke coil for circuit design. This latest product brings the NR60 series lineup to four models based on height, widening the performance variation and enabling a more detailed response to market needs.

Production is to commence in May 2008 at the Taiyo Yuden overseas production site, Taiyo Yuden (Philippines), with a volume of 1 million units per month. The sample price is 20 yen per unit.

Taiyo Yuden has won praise for its wire wound power inductor NR series with its simple sleeveless structure that thoroughly eliminates all wasted space. Since the lineup for use in flat TVs' choke coils was launched with the release of the NR8040 in December 2005 (8.0 x 8.0 x 4.0mm, height is maximum value), the NR80 series (8mm-square product) and NR60 series (6 mm-square products) have been developed.

The flat TV market is expanding rapidly everywhere all over the world, and the trend is toward higher performance at lower prices. With the trend to higher performance, use of IC chips in input-output circuits, image processing circuits, and information processing circuits, etc., has increased, and power supply circuits have increasingly been mounted on each IC chip to make power use more efficient toward the goal of reducing power consumption.

However, input-output circuits, image processing circuits, and information processing circuits use high-priced multilayer printed circuit boards, and the expansion of circuit area due to the increase in the number of power supply circuits has been a factor in pushing up flat TV prices. The DC-DC converter's main component part that also covers a large area is a choke coil, and naturally there have been requests for downsizing choke coils as a way to reduce the mounting area of the printed circuit board. As a result, the NR series, which is more compact and achieves a higher current and lower Rdc than conventional products, has come to be widely used in flat TVs' choke coils as a major application.

With the sale of the NR6028, the NR60 series now comes in four height sizes, 1.2, 2.0, 2.8 and 4.5mm, to achieve an expanded performance variation range.

This product will be on display at the Taiyo Yuden booth for TECHNO-FRONTIER 2008, to be held starting April 16 at Makuhari Messe (Mihama-ku, Chiba city).

The NR6028 line-up is as follows.

Ordering code	Inductance[μH]	Rdc [Ω]	Rated current [A] max	
			Saturation current	Temperature rise current
NR6028T 0R9N	0.9	0.013	6.60	4.60
NR6028T 1R5N	1.5	0.016	5.00	4.20
NR6028T 2R2N	2.2	0.020	4.20	3.70
NR6028T 3R0N	3.0	0.023	3.60	3.40
NR6028T 4R7M	4.7	0.031	2.70	3.00
NR6028T 6R0M	6.0	0.040	2.50	2.50
NR6028T 100M	10	0.065	1.90	1.90
NR6028T 150M	15	0.095	1.60	1.80
NR6028T 220M	22	0.135	1.30	1.40
NR6028T 330M	33	0.22	1.10	1.10
NR6028T 470M	47	0.30	0.95	0.92
NR6028T 680M	68	0.42	0.76	0.77
NR6028T 101M	100	0.60	0.62	0.66