

Taiyo Yuden Design Breakthrough Results in Industry's Smallest Wire-Wound Power Inductors 70% Smaller Than Previous Co. Devices

SCHAUMBURG, IL-April 18, 2008- TAIYO YUDEN (U.S.A.) Inc. announces the immediate availability of its new BRC1608 series of high-current, wire-wound power inductors in EIA 0603 case size. Touted as the smallest power inductors available, BRC1608 devices measure just 1.6 mm L x 0.8 mm W x 0.8 mm H (all dimensions ± 0.2 mm). In addition to small size, the eight models (see table below) offer an excellent combination of low DC resistance (0.06 to 0.55 Ohms), high inductance (0.2 to 2.2 μ H) and high current ratings (0.98 to 0.28 A). The 70% smaller footprint of the BRC1608 series facilitates more compact DC-DC converters and thinner-profile product designs. Now being produced and shipped in mass quantities, BRC1608 series wire-wound power inductors are ideally suited for DC-DC converter choke coil applications in digital cameras, cell phones, MP3 players and other battery-powered electronic devices.

The continuing miniaturization trend in portable equipment is driving the need for more compact, high-efficiency DC-DC converters to maximize battery power and extend device run time by conserving electric power that is wasted as thermal energy. Typical power inductors used for this employ copper coils wound around a magnetic core. This configuration provides generally better performance but due to non-standardized physical characteristics does not lend itself to high-efficiency, automated pick-and-place manufacturing methods with their attendant cost benefits. On the other hand, multi-layer fabrication techniques are highly manufacturable, however, the high inductance / high current needs of power inductor applications provide a technological hurdle that has yet to be surmounted.

TAIYO YUDEN's material science and manufacturing expertise effectively bridges the gap between wire-wound performance and multi-layer manufacturability with its BRC1608 series. These wire-wound power inductors are now available in EIA 0603 case size, providing the high bias characteristics of wire-wound devices with the small size of multi-layer type devices that offer greater economies of scale.

The BRC1608 wire-wound inductor product family presently includes the following part numbers:

Part Number	EIA Case Size	Inductance (μ H) $\pm 20\%$ @ 7.96 MHz	R_{DC} (Ohms)	Rated Current (mA)	
				Saturation	RMS
BRC 1608T R20M	0603	0.20	0.060	1750	980
BRC 1608T R35M	0603	0.35	0.080	1400	810
BRC 1608T R45M	0603	0.45	0.090	1250	800
BRC 1608T R56M	0603	0.56	0.095	1150	760
BRC 1608T R77M	0603	0.77	0.110	1000	660
BRC 1608T 1R0M	0603	1.00	0.180	850	520
BRC 1608T 1R5M	0603	1.50	0.300	700	410
BRC 1608T 2R2M	0603	2.20	0.550	550	280