

EMC components

World's first chip beads able to offer effective noise suppression in the 2.5-GHz range

September 3, 2013

TDK Corporation has extended its MMZ portfolio of Gigaspira beads with the MMZ1005-V series, which features the world's highest* impedance peak frequency in the 2.5 GHz range. The new EMC components enable, for the first time, simple and effective noise suppression of high-frequency signals above 2 GHz, as used for WLAN and LTE, for example. The new Gigaspira beads offer a high impedance of up to 3000 Ω at 2.5 GHz. The types are available in IEC case size 1005 (EIA 0402) and measure a miniature 1.0 mm x 0.5 mm x 0.5 mm. Thanks to these features the new MMZ1005-V Gigaspira beads are ideally suited for noise suppression in smartphones, tablet PCs and other mobile communication devices. Production of the new MMZ1005-V Gigaspira beads begins in September 2013.

The benchmark performance of the TDK MMZ1005-V series was made possible thanks to the use of new ferrite material. Depending on type, the new beads offer a maximum DC resistance of between 0.9 Ω and 1.6 Ω and a rated current of 150 mA to 250 mA. With the addition of the new series to the standard MMZ1005 series and the wideband MMZ1005-E Gigaspira series, TDK's lineup of chip beads now covers an even wider range of requirements for noise suppression in signal lines.

* As of September 2013, according to TDK data

Glossary

- Impedance peak frequency: The frequency at which the impedance of an EMC component is highest. The impedance peak frequency is typically in the range of the component's self-resonant frequency.

Main applications

- Smartphones, tablet PCs, and other mobile communication devices
- Electronic devices that support LTE and WLAN (IEEE 802.11 b/n)

Main features and benefits

- Impedance peak frequency in the 2.5 GHz range enables effective noise suppression in the high frequency range for the first time.

Key data

Type	Impedance at 100 MHz [Ω] ±25%	Impedance at 1 GHz [Ω] ±40%	Impedance at 2.5 GHz [Ω] (typ.)	DC resistance [Ω] (max.)	Rated current [mA] (max.)
MMZ1005AFZ750V	75	500	1400	0.90	250
MMZ1005AFZ151V	150	1000	2500	1.30	200
MMZ1005AFZ181V	180	1200	3000	1.60	150

About TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's portfolio includes electronic components, modules and systems marketed under the product brands TDK and EPCOS, power supplies, magnetic application products as well as energy devices, flash memory application devices, and others. TDK focuses on demanding markets in the areas of information and communication technology and consumer, automotive and industrial electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2013, TDK posted total sales of USD 9.1 billion and employed about 80,000 people worldwide.

About TDK-EPC Corporation

TDK-EPC Corporation, a TDK group company, is the manufacturer of TDK's electronic components, modules and systems and is headquartered in Tokyo, Japan. TDK-EPC was founded on October 1, 2009, from the combination of the electronic components business of TDK and the EPCOS Group. The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites, inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors.

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Contacts for regional media

Region	Contact	Phone	Mail
Japan	Ms. Mari KONISHI TDK Corporation Tokyo, Japan	+813 6852-7102	pr@jp.tdk.com
ASEAN	Ms. Jiang MAN Mr. Shota KANZAKI TDK Singapore (Pte) Ltd. Singapore	+65 6273 5022	asean.inquiry@sg.tdk.com
Greater China	Ms. Clover XU TDK China Co., Ltd. Shanghai, China	+86 21 61962307	pr@cn.tdk.com
Europe	Mr. Frank TRAMPNAU TDK Electronics Europe GmbH Duesseldorf, Germany	+49 211 9077 127	trampnau@eu.tdk.com
America	Ms. Sara M. LAMBETH TDK Corporation of America Irving, TX, USA	+1 972-409-4519	sara.lambeth@us.tdk.com