

RF components

World's first multilayer band-pass filter for millimeter wave bands in 5G networks

- Low insertion loss, high attenuation and low group delay for the 28 GHz band
- Miniature dimensions of 2.5 x 2.0 x 0.9 mm

November 19, 2019

TDK Corporation (TSE:6762) has expanded its lineup of high frequency multilayer products with the world's first* multilayer band-pass filter for the 28 GHz band in 5G mobile communication networks. The new high-frequency component is based on TDK's LTCC (low-temperature co-fired ceramic) material and precise multilayer technology, which enable a low insertion loss of just 1 dB, a high attenuation of up to 30 dB, and low group delay of only 0.25 ns. Thanks to its advanced terminal design, the new component is able to reliably suppress frequency fluctuations in the millimeter wave bands. The new MMC series, which measures in at just 2.5 x 2.0 x 0.9 mm, is thus ideally suited as a band-pass filter for these high frequencies and for the removal of spurious signals in the RF transceiver circuits of 5G base stations and other mobile communication equipment. Samples of the customer-specific component are available and the MMC series is ready for mass production.

Moving forward, TDK will further expand its lineup of filter products that support the growing range of wave bands in the millimeter range and provide multilayer band-pass filters with characteristics that satisfy circuit application needs of wireless communication devices.

* Source: TDK market research, November 2019

Main applications

- RF transceiver circuits in 5G base stations and other mobile communication equipment

Main features and benefits

- Availability for 5G NR (new radio) frequency of 28 GHz
- Low insertion loss of just 1 dB, high attenuation of up to 30 dB and low latency performance
- Miniature dimensions of just 2.5 x 2.0 x 0.9 mm
- Advanced terminal for reliable suppression of frequency fluctuations in the millimeter wave bands
- Excellent band-pass performance

Key data

Type	Dimensions [mm]	Insertion loss [dB]	Attenuation [dB]		Group delay [ns]
			27.5-29.5 GHz	22.1-24.68 GHz 32.3-34.9 GHz	
MMCB2528G5T-0001A3	2.5 x 2.0 x 0.9	1.0	30	25	0.25

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 comprehensive portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in the areas of information and communication technology and automotive, industrial and consumer 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 2019, TDK posted total sales of USD 12.5 billion and employed about 105,000 people worldwide.

You can download this text and associated images from www.tdk.com/corp/en/news_center/press/20191119_01.htm.

Further information on the products can be found under https://product.tdk.com/info/en/documents/data_sheet/rf_bpf_mmc2528g5t-0001a3_en.pdf

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