RF components: High-performance multilayer band pass filter in 1005

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TDK Corporation has developed a multilayer band pass filter in size 1005 that is significantly smaller than the existing 1608 types.

With its miniature dimensions of just 1.0 mm x 0.5 mm x 0.37 mm, the insertion height of the new DEA102450BT-1278A1 band pass filter has been reduced by more than a third and its volume by 75 percent. The filters are designed for the 2.4 GHz band, and are thus suitable for Bluetooth and wireless LAN implementation in smartphones, regular cell phones, and other mobile devices. They feature an outstanding insertion loss of just 2.5 dB and a high attenuation of at least 25 dB (at 4.8 GHz to 5.0 GHz). Despite the component's small form factor it offers a rated power as high as 27 dBm. Mass production has launched in April 2012.

As smartphones and other mobile devices become ever smaller, lighter, faster, and capable of handling higher frequencies, their electronic components also must provide high performance in a compact, low-profile, lightweight package. TDK used its advanced thin-layer and micro-wiring technology to develop the new band pass filter with both miniature dimensions and excellent performance characteristics. Thanks to the use of a low-loss conductive material for the resonator the DEA102450BT-1278A1 also features high Q values. The new product is rated for an operating temperature range of -40 °C to +85 °C

Provided by TDK