New advances in the lab make Smoltek attractive in the market

In recent years, Smoltek has developed CNF-MIM, a concept for circuit-integrated capacitors. The company is now introducing a new, verified and industrially attractive performance of this concept. This is a significant step towards being able to license this technology for customers in the semiconductor and electronics industries.

Smoltek presents new measurement results from the nanotechnology research conducted by the company at Chalmers University of Technology's MC2 laboratory, in Gothenburg.

This news implies that Smoltek can now present a number of capacitor prototypes, based on carbon nanofibers with a capacitance density of 200nF (nanoFarad) per square millimeter. This is two and a half times greater than the previously verified figure, presented by the company as recently as May this year. In this context, this has been achieved with short nanostructures, which provide a very low overall profile height and is thus an integration advantage.

Furthermore, Smoltek confirms that the internal resistance of the capacitor is low, which is an important parameter in the practical application of the technology. The company has previously demonstrated that the technology also meets the required breakdown voltage for the application areas of interest.

”This is a very important step for Smoltek, as it increases the attractiveness of our technology in the customer dialogues in progress,” says Anders Johansson, CEO of Smoltek Nanotech Holding AB. He also points out that there are further optimization opportunities in the concept in the future.

“The new measurement results confirm Smoltek’s leading position when it comes to innovative technology for integrated passive components. Yet again they demonstrate that our capacitor technology is highly relevant in meeting the challenges of future integrated circuits, namely, higher performance on a smaller surfaces”, says CTO Professor Vincent Desmaris.

Simply expressed, the capacitance density refers to how many electrons that can be stored per surface unit. The fact that a higher value is measured implies that the desired performance of a capacitor can be achieved on a smaller surface.

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