

Nov 26<sup>th</sup>, 2018 Denka Company Limited

## Joint Development of Ceramic Substrates for Eco-Friendly Vehicles

Denka Company Limited (Head Office: Chuo-ku, Tokyo, President: Manabu Yamamoto, hereinafter Denka) and Mitsubishi Materials Corporation (Head Office: Chiyoda-ku, Tokyo, President: Naoki Ono, hereinafter Mitsubishi Materials) announced that they have reached an agreement on the joint development of ceramic substrates to be used in the power module for the motor drive of EVs and other eco-friendly vehicles, and are making an effort towards full-fledged mass-production.

Following the rapid increase of recent market needs for EVs, the demand for ceramic substrates with excellent heat dissipating property has been growing considerably as an insulating component to be used in the power module for the motor drive.

On the other hand, products with higher heat cycle reliability are required while improving their heat dissipating property, by thickening the copper circuit of ceramic substrates to cope with the rising heat density in the semiconductor elements associated with higher-power motors.

Through this joint development, the two companies aim to commercialize market-competitive ceramic substrates at an early stage by fusing the material and manufacturing technologies of Denka and Mitsubishi Material's proprietary circuit processing technology.

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