

ECU Vent Filter Components for Use in Automotive Electronics



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Summary

Due to matters related to environmental problems, such as CO₂ regulations, the use of hybrid vehicles has increased throughout the automobile industry and, in the interests of safety and comfort, various types of electronic control device are being introduced. There have consequently been demands for vent filters that can be used in electronic control units (ECUs).

Although we had already developed vent filters for automotive use, such as the C2-NTF series for vehicle lamps, this time we set out to develop components that can be used on ECUs in the demanding environment of the engine compartment.

We carried out durability tests using simulations to analyze structure and calculate deformation in order to ensure that we properly overcame the problem of durability before using the results in our final product design process.

We used heat sealing to combine the PTFE porous membrane with the components and, in order to maintain safety and reliability in the attachment area, we thoroughly investigated the component attachment surface.

In this paper I introduce the new ECU vent filters and the technology employed in their development.