

CAN FD for functional integrity

STMicroelectronics has launched automotive MCUs that aim to make cars more secure and connected. The SPC58 family combines ISO CAN FD and Ethernet communication interfaces with the latest HSM technology.

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(Photo: STMicroelectronics)

Scalability allows the SPC58 devices to be used in automotive networks with high bandwidth and in-vehicle security. The combination of Ethernet and ISO CAN FD communication interfaces with HSM (Hardware Security Module) technology ensures the functional integrity of the car's ECUs (electronic control units), intrusion detection, and protection against malicious attacks. ST's in-house embedded Flash (eFlash) 40-nm process technology is suitable to integrate high performance and automotive-grade reliability in small packages, enabling car gateways and body modules to be smaller, and lighter.

"Building on the success of our SPC56 automotive MCU family, which is widely used by Tier-1 and car manufacturers, the new SPC58 enables the automotive industry to raise the bar in security and in-car communications," said Fabio Marchio, General Manager Automotive Digital Division, STMicroelectronics. "The next generation of smarter cars will rely on electronic systems based on MCUs that provide the best combination of performance, low power consumption, high security, and robustness. ST's SPC58 MCU lines meet all these needs, making them the leading solutions for next-generation in-car controllers."

The SPC58 family, optimized for car body and security applications, offers a scalable line of products. They have the highest number of ISO CAN FD and Ethernet communication channels on the market and they comply with ASIL-B. For example the SPC58 C line feature eight ISO CAN FD modules.

The MCUs also have double the performance of previous-generation solutions, thanks to the multi-core architecture, higher system frequency, and faster memory-access time. Applications are portable from SPC56 to SPC58, with reuse of existing software, development tools, and hardware experience.

"Tomorrow's connected car will communicate with everything, from its internal systems such as transmission, advanced driver-assistance electronics, and front panel to roadside infrastructure, emergency services, and other cars. And it will have to provide the highest level of security," added Marchio. "The SPC58 automotive MCUs, with their unique combination of performance, connectivity, security, and scalability, allow car makers and their sub-system suppliers to set new standards in ensuring a safer, greener, and more enjoyable driving experience."

The new products are part of a ST strategy to offer products with embedded security functions that include stand-alone secure elements. Samples of the SPC58 B, C, and G line MCUs have been provided to lead customers and full production is scheduled for Q1 2017.

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