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SMARC COMPUTER-ON-MODULES

Smarc computer-on-modules

Avnet Integrated presented its scalable Smarc 2.0 module series MSC SM2S-IMX8MINI which is based on i.MX 8M processors from NXP. CAN interfaces can be provided optionally on request.

The series integrates up to four ARM Cortex-A53 processors with up to 1,8 GHz, the ARM Cortex-M4 real time processor, and the Vivante GC Nano Ultra multimedia 2D/3D graphics processor (Source: Avnet Integrated)

The multicore ARM Cortex-A53 processors are built using NXP's 14-nm Finfet process technology. The modules may be used in general purpose industrial, IoT (Internet of Things), building automation, and media streaming application. The range of interfaces typical for embedded applications includes Gigabit Ethernet, PCI Express, USB 2.0, and dual-channel LVDS. On request, two CAN interfaces can be implemented. A camera can be connected via the MIPI CSI-2 interface. The board is optionally equipped with a wireless module or micro SD card socket.

According to the company, the product features high scalability and can be equipped with different single-, dual- or quad-core processor types. The flexibility of the module family is comparable to the scalability of the i.MX 6 predecessor products. However, these modules offer higher compute performance due to 64-bit support and LPDDR4 memory. The modules are designed not only for the mini processors, but also for the future pin-compatible Nano processors from NXP.

The computer-on-modules (COMs), based on NXP's i.MX 8 processor family â€' consisting of the i.MX 8, i.MX 8M, and i.MX 8M Mini variants â€' are suitable for embedded applications. Avnet Integrated offers the complete i.MX 8 processor family on the Smarc 2.0 and Qseven module form factors. In addition to providing hardware manufactured in Germany, development tools such as starter kits and board support packages as well as personalized services including design-in support and carrier design review are offered. Product versions are available with and without video processing unit (VPU). Up to 4 GiB fast LPDDR4 SDRAM and up to 64 GiB eMMC Flash memory are available on the module for program and data storage.

The short-size processor module with dimensions of 82 mm x 50mm is specified for operation in the full industrial temperature range from -40 °C to +85 °C. Avnet Integrated provides the MSC SM2-MB-EP1 development platform in Mini-ITX form factor and a starter kit for rapid design-in of the latest Smarc module. In addition, board support packages for Linux and, on request, for Android are available.

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