CAN *Newsletter Online*

## *Meeting ISO 26262 safety requirements*

Microchip launched the MXT1296M1T touchscreen controller for flexible screen formats. Another recent PIC18 micro-controllers (MCUs) enable development of ASIL B/C safety level applications.

Reconfigurable driving and receiving touch channels allow to match the screen format to different aspect ratios (Source: Microchip)

The MXT1296M1T can reconfigure its driving and receiving touch channels to match the screen format, from 1:1 to 5:1 aspect ratio, including the popular 8:3 automotive aspect ratio. This enables to use the available number of touch channels, without the need for a larger controller. The enabled channel reconfiguration by parameters does not require a firmware modification, which leads to lower design risk and faster time to market, explained the company. The component offers two simultaneously-operating communication interfaces, which allow a bridgeless connection to the video link for touch information and a connection to a local MCU. The second interface offers a redundancy link to the head unit via CAN or automotive Ethernet. A local access and control of the controller's features (capacitive keys report, live touch-sensor diagnostics, and data for post-processing) as well as over-the-air firmware update are provided as well.

The embedded functional safety features constantly check the operation integrity of the touch controller and the connected touch sensors. This enables the customer to design, build, and certify a system for ASIL B (automotive safety integrity level) applications according to ISO 26262. The embedded transmit waveform control enables to lower RF (radio frequency) emissions and avoid interference with the car radio or RFID (RF identification) systems. Thus, the emissions can be optimized the to meet specific OEM (original equipment manufacturer) limits. The already available controller is supported by dedicated development tools, evaluation kits, and development boards.
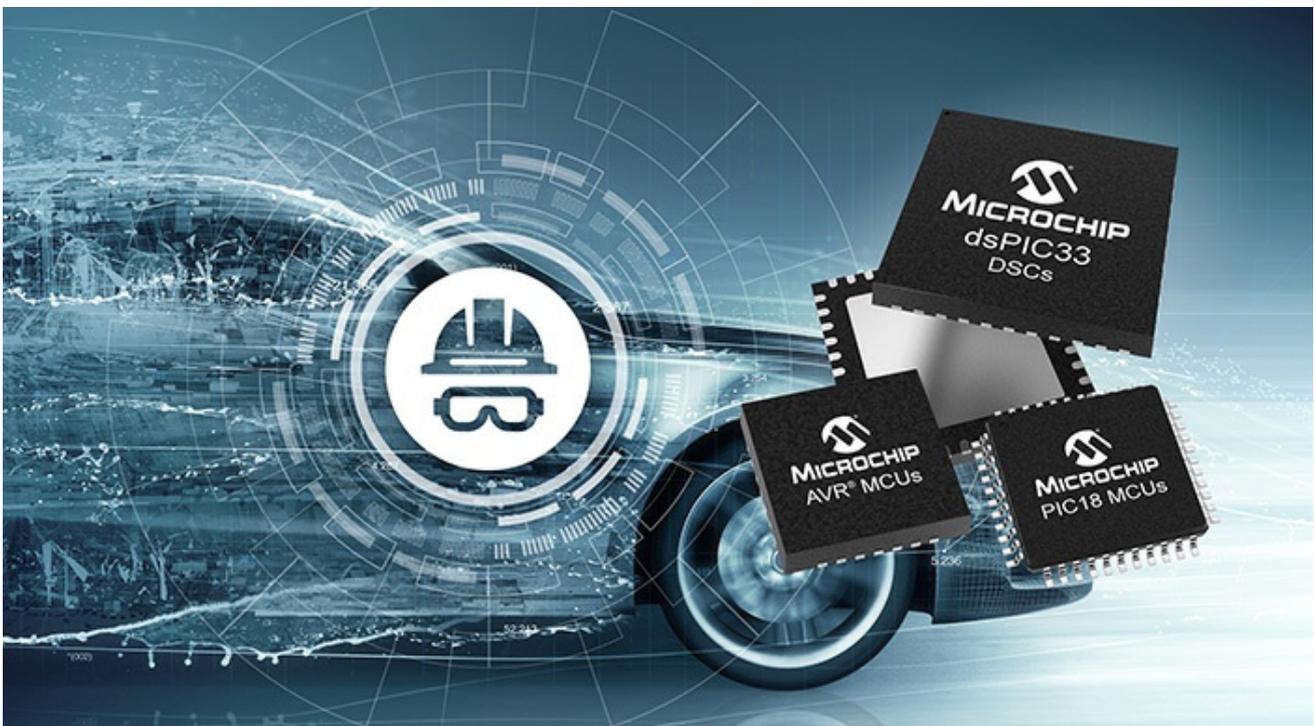
ISO 26262 functional safety packages enable development of ASIL B/C applications with the CAN FD capable PIC18 MCUs (Source: Microchip)

Microchip also released the ISO 26262 functional safety packages for PIC18 micro-controllers (MCUs) enabling development of ASIL B and ASIL C safety level applications. The AEC Q100 Grade-1-qualified PIC18-Q84 MCUs provide CAN FD interfaces and hardware support for capacitive touch sensors. The functional safety ecosystem includes the MCUs, the SGS TÜV Saar-certified ASIL B FMEDA (failure modes, effects, and diagnostic analysis) report, and the FSM (functional safety manual). Additionally provided are the functional safety diagnostic libraries as well as the ASIL-B-ready certificates and certification reports to help ease compliance and certification, the company added. Three offered ISO 26262 functional safety packages (basic, starter, and full) are dedicated to help customers with different levels of expertise. Beside the available development support and tools ecosystem, the manufacturer offers functional-safety-ready CAN FD and [LIN](#) transceivers.

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