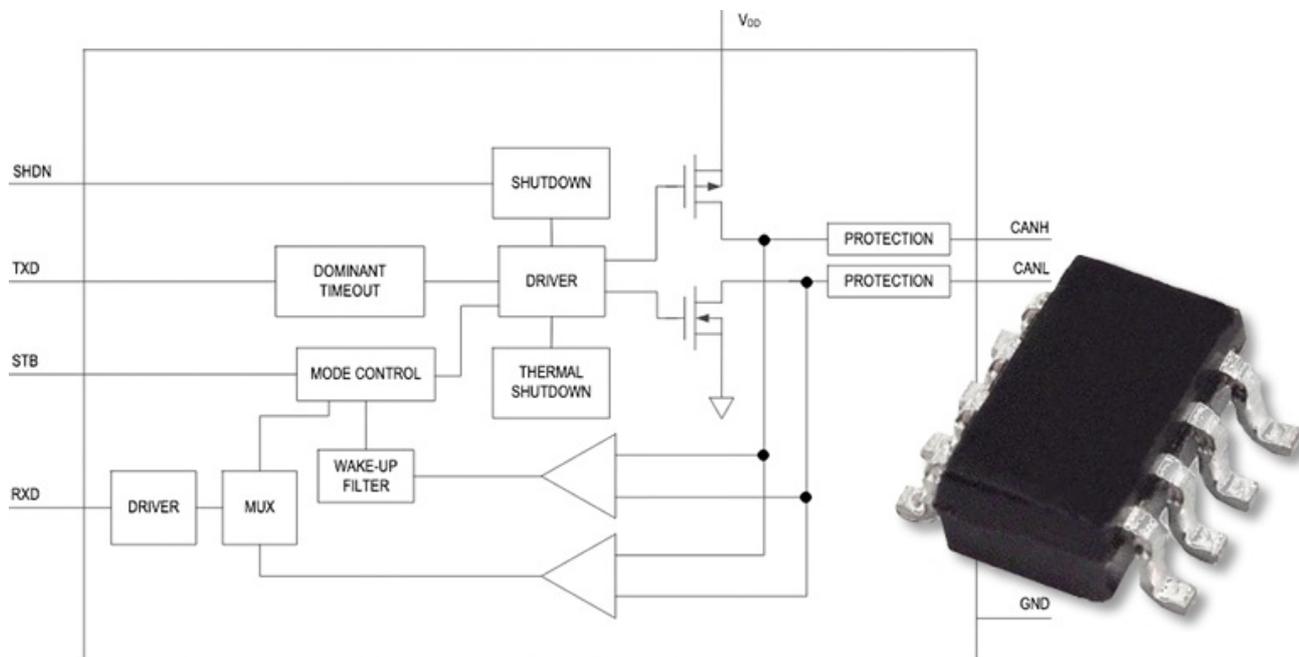


FAULT-TOLERANT CAN TRANSCEIVER

CAN transceiver for noisy environments

Maxim Integrated launched the 3,3-V MAX33040E CAN transceiver with integrated overvoltage protection for use in industrial applications.



The transceiver is dedicated for use in industrial equipment, instrumentation, motor control, building automation, drones, robots, etc. (Source: Maxim Integrated)

The component has extended the ± 40 -V fault-tolerant protection on CANH and CANL lines for equipment where overvoltage protection is required. It incorporates a ± 40 -kV ESD (electrostatic discharge) HBM (human body model). The input common-mode range (CMR) of ± 25 V on CANH and CANL exceeds the CMR of -2 V to +7 V as specified in the ISO 11898-2 standard. These features make the component suited for applications where electrical noises can influence the ground levels between two CAN nodes or systems.

According to the manufacturer, the transceiver is able to operate at bit-rates up to 5 Mbit/s in short-distance networks. The maximal bit-rate in large networks can be limited e.g. by the number of nodes, cable type, network topology, and stub lengths. The component includes a dominant timeout to prevent a bus-lockup caused by a controller error or by a fault on the TxD input. When TxD remains in the dominant state (low) longer than the specific t_{DOM} , the driver is switched to the recessive state releasing the bus and allowing other nodes to communicate.

A shut-down pin and a stand-by pin for three operation modes are included. The stand-by functionality is available for low current consumption, for normal high-speed mode, or for a slow slew-rate mode when an external 39,2-k Ω resistor is connected between the ground and the stand-by pin. The component is available in a SOT-23-8 package and can operate in the temperature range from -40 °C to +125 °C.

The company's MAX33040Eshld shield evaluation kit is a demonstration and development platform for the MAX33040E CAN transceiver. The kit includes a pre-installed MAX33040E transceiver. It can be used as a standalone evaluation board as well as with the Mbed or Arduino platform to communicate with a CAN network. The board features test points to access the key signal pins of the transceiver. The MAX14931 digital isolator is used as a level translator with a 1,71-V to 5,5-V supply range additionally required for the micro-controller. The on-board microSD card socket allows for kit's use in OBD (on-board diagnostics) applications.



[of](#) MAX33040Eshld shield evaluation kit (Source: Maxim Integrated)