

WITH TOOLCHAIN SUPPORT

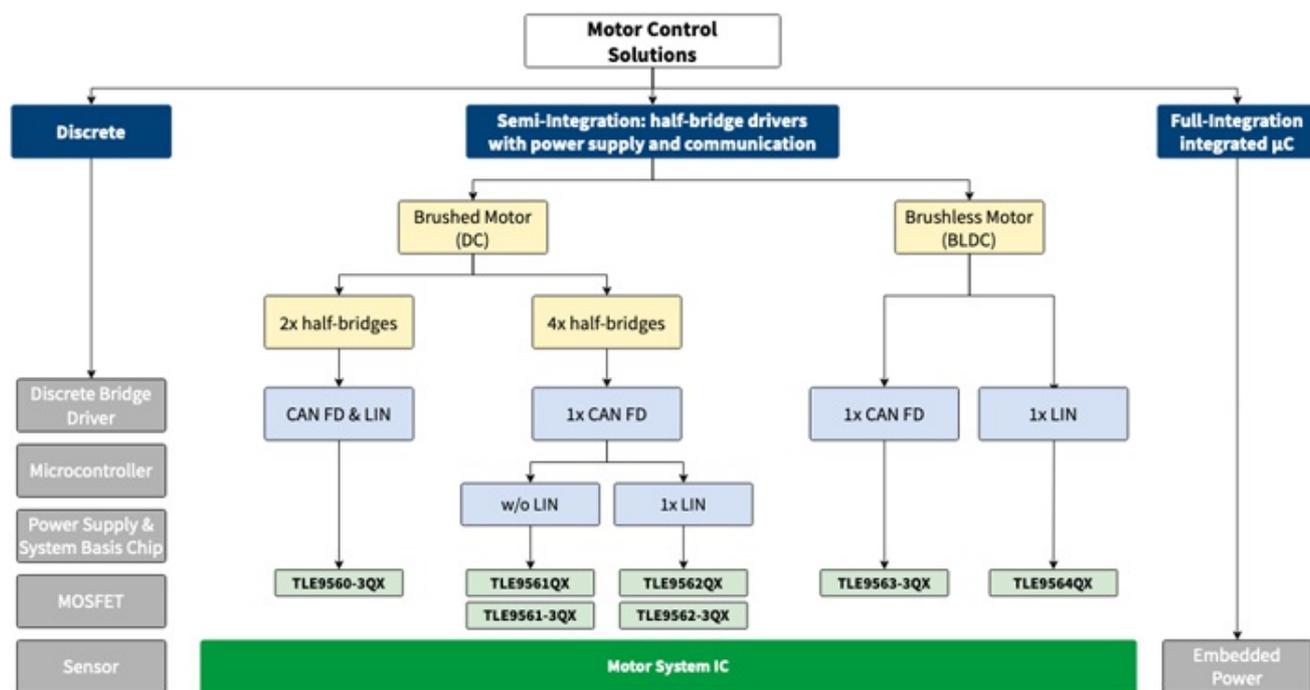
Automotive ICs for motor control

Infineon presented the Motor System ICs family for control of brushed and brushless DC motors. The components provide CAN FD and further automotive communication interfaces.



From power lift gate and sunroof to electric seat adjustment and fuel pumps, an increasingly large number of electric motors ensure safety and comfort in modern cars. "With our highly integrated Motor System ICs, system designers only need half the board space compared to existing solutions. At the same time, system designers maintain the capability to choose their micro-controller," said Andreas Doll, Vice President and general manager, Automotive Body Power at Infineon. "Furthermore, we implemented our patented adaptive Mosfet driver that improves electromagnetic compatibility and reduces switching losses in the system." This control algorithm can compensate for Mosfet parameter spread in the system by automatically adjusting the gate current.

The ICs for control of brushed and brushless DC motors in cars integrate multiple half-bridge drivers for Mosfets, power supply, and communication interfaces. (Source: Infineon)



The Motor System ICs cover the semi-integration path in the middle (Source: Infineon)

The motor control chips come with a CAN-FD transceiver featuring the 5 Mbit/s parameter set according to ISO 11898-2:2016. They support partial networking. Additionally, a LIN transceiver according to ISO 17987-4 (2.2A) and SAE J2602 is available. The chips are based on an ARM processor. The component contains up to four half-bridge drivers for external N-channel Mosfets. An integrated linear voltage regulator supplies 5 V with an output current of 250 mA. The motor control offerings include a toolchain by Cypress, which is now a part of Infineon. The product family comprises a total of seven variants all coming in VQFN-48 packages (7 mm x 7 mm). Development samples for the first products are available. Series production is scheduled to start in the fourth quarter of 2020.

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