



# L99DZ300G

## Automotive front door IC with CAN FD and LIN transceivers



### Flexible door zone IC with enhanced power management functions and a wide variety of programmable drivers for advanced door controls

The first door zone IC integrating CAN-FD and LIN transceivers, the L99DZ300G represents a breakthrough in automotive door electronics. Integrating transceivers, door actuators, and power management functions in a single chip, this advanced door module IC reduces the weight and size of the door electronics.

This integrated low-power module further improves efficiency by reducing quiescent current by almost 50% compared to the discrete approach, cutting total power consumption, which has become the most important key feature for vehicle electrification requirements

#### KEY FEATURES AND BENEFITS

- AEC-Q100 qualified
- CAN FD and LIN transceivers
- 6 half-bridge drivers with PWM and short-circuit protection
- 10 high-side drivers
- Up to 5 DC motors and 4 external MOS transistors in H-bridge configuration can be driven in PWM mode
- Driver for dimmable exterior mirror (electro-chrome)
- Gate driver for mirror heater
- Two 5 V voltage regulators
- Contact monitor

#### KEY APPLICATIONS

- Door zone module

The L99DZ300G door module IC represents the heart of the car door with an integrated approach that offers significant cost savings and function consolidation, making the device extremely cost effective. Able to drive up to 5 DC motors and 4 external MOS transistors in H-bridge configuration in PWM mode up to 25 kHz, the L99DZ300G addresses multiple applications including rear-view mirrors (from folding to x-y adjustment and defrosting), door lock, window lift and other functions specifically driven by the electronic door module. In addition to its two 5 V voltage regulators and LIN transceiver, the L99DZ300G integrates an innovative CAN FD transceiver, a more advanced version of a classical CAN protocol designed to improve the efficiency of

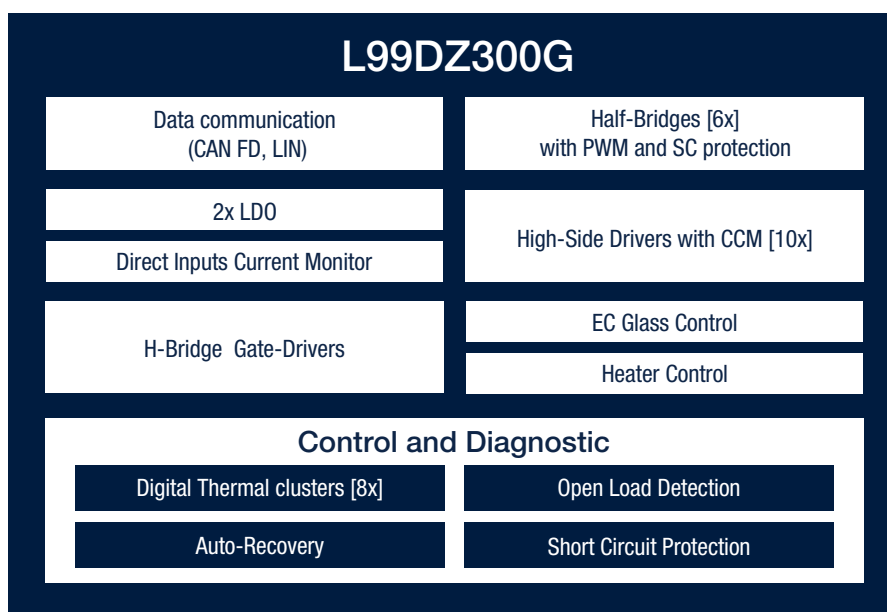
the most recent automotive Electronic Control Units (ECUs).

The L99DZ300G also integrates advanced lighting features in a single smart package including side repeaters, puddle lamps, blind-spot indicators and bulb management functions to ensure driver and occupant safety. The device has two fully protected low-drop voltage regulators to supply the system microcontroller and external peripheral loads, such as sensors, and provides enhanced system standby functionality with programmable local and remote wake-up capability. In addition, the two low-drop voltage regulators are designed for very fast transient response and eliminate the electrolytic output capacitors typically required for stability.

Moreover, the integrated 10 high-side drivers (9 to supply LEDs and 1 to supply bulbs) support constant current mode for LED modules with high input capacitance.

It also offers an additional gate drive to control an external MOSFET in high-side configuration to supply a resistive load connected to GND (for example mirror heater). An electrochromic mirror glass can be controlled using the integrated SPI-driven module in conjunction with an external MOS transistor. All the outputs are short circuit protected and implement open-load diagnostics. The ST standard SPI interface allows control and diagnosis of the device and enables generic software development.

## L99DZ300G Block Diagram



## Device Summary

Part Number	Package	Technology	Operative range	Temperature range
L99DZ300GTR	LQFP64	BCD9sL	6 to 28 V	-40 to 175 °C



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