

L99DZ120

Rear Door System IC



AEC-Q100 qualified actuator driver IC with embedded LIN transceiver, low-power modes and protection functions

Over the past years, the presence of electronics inside rear car doors has significantly increased thanks to the integration of functions such as the door locking, the door lighting and the power window lift. L99DZ120 is a door zone actuator specifically designed to drive all these new features present in the rear door, with the possibility to communicate with other car nodes via LIN.

It also includes a power management function to provide enhanced system standby functions with programmable local and remote wake-up capabilities.

KEY FEATURES

- 4 Integrated half-bridges
- 8 High-side drivers
- 2-stage charge pump
- H-bridge driver
- Dual-motor mode
- Isolated fail-safe block
- 2 Low-dropout voltage regulators (LDOs)
- LIN transceiver
- Thermal clusters
- Thermal expiration
- Self-adjust feature for LED duty cycle

KEY APPLICATIONS

- Rear Door Zone



L99DZ120 FEATURES

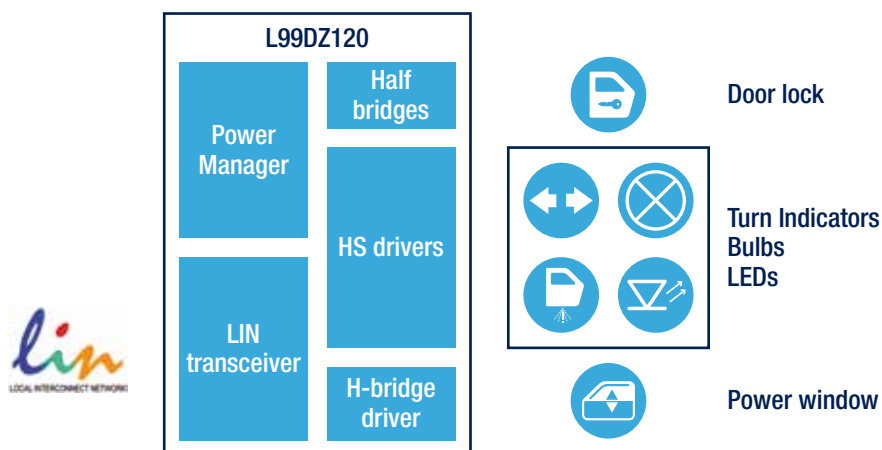
The L99DZ120 is a door zone system IC providing electronic control modules with enhanced power management power supply functions including various low power consumption modes as well as LIN physical communication layers.

Two embedded low-drop voltage regulators supply the system microcontroller and external peripheral loads such as sensors and provide enhanced system standby functionality with programmable local and remote wake-up capabilities.

Able to drive up to 3 DC motors and 4 external MOS transistors in H-bridge configuration, the L99DZ120 also increases the system's integration level with ten configurable high-side drivers that can supply LEDs or light bulbs.

All outputs are short-circuit protected and implement an open-load diagnosis. The SPI interface (4.0) can be used for device control and diagnosis and enables generic software development.

L99DZ120 BLOCK DIAGRAM



DEVICE SUMMARY

Part number	Package	Extended operative range (V)	Transceiver	Motor Control driver	Serial Interface	Outputs	Voltage regulators
L99DZ120	LQFP-64	3.5 ^(*) to 28	LIN 2.2a/ SAE J2602	H-bridge or dual half-bridge	SPI	Full bridges: 1x3A + 1x7.5A 1xHS: 1.5 or 0.35 A 1xHS: 1.0 or 0.35 A 3xHS: 0.15 or 0.35 A 1xHS: 0.25 or 0.5 A 4xHS: 0.15 or 0.25 A	Voltage regulator 1: Output 5V, max. current 250 mA, accuracy ±2% Voltage regulator 2: Output 5V, max. current 50 mA, accuracy ±3%

(*) All SPI communication, logic, voltage regulators and oscillators operate down to $V_{SREG} = 3.5$ V

