

# L99UDL01

## Universal automotive door lock IC



**AEC-Q100-qualified automotive universal door lock IC integrates 6-current regulated half bridges for smart locking.**

Electronics have revolutionized the automotive industry, improving safety and reliability while allowing users to drive in more efficient and comfortable cars.

The L99UDL01 marks a significant step forward in door lock actuator control by integrating intelligent and modern motion-control techniques.

With six integrated half bridges featuring programmable Pulse Width Modulation (PWM) current regulation, the L99UDL01 reduces the door lock actuator's stress and noise level. The L99UDL01 thus improves the actuator's reliability and lowers warranty costs, within a very small

footprint for central door lock actuation control.

The L99UDL01 also includes an Emergency Mode which provides the most reliable way to ensure Emergency Responders' access to the car in case of an accident.

### KEY FEATURES

- 6-current regulated half-bridge outputs (fully independent or grouped up to three in parallel)
- PWM Current Regulation up to 25 kHz
- 10-bit digital current monitoring (via SPI) for load integrity check
- 2 half-bridge drivers
- 2-stage charge pumps
- Emergency mode
- Thermal warning and shutdown protection

### KEY APPLICATIONS

- Body Control Module

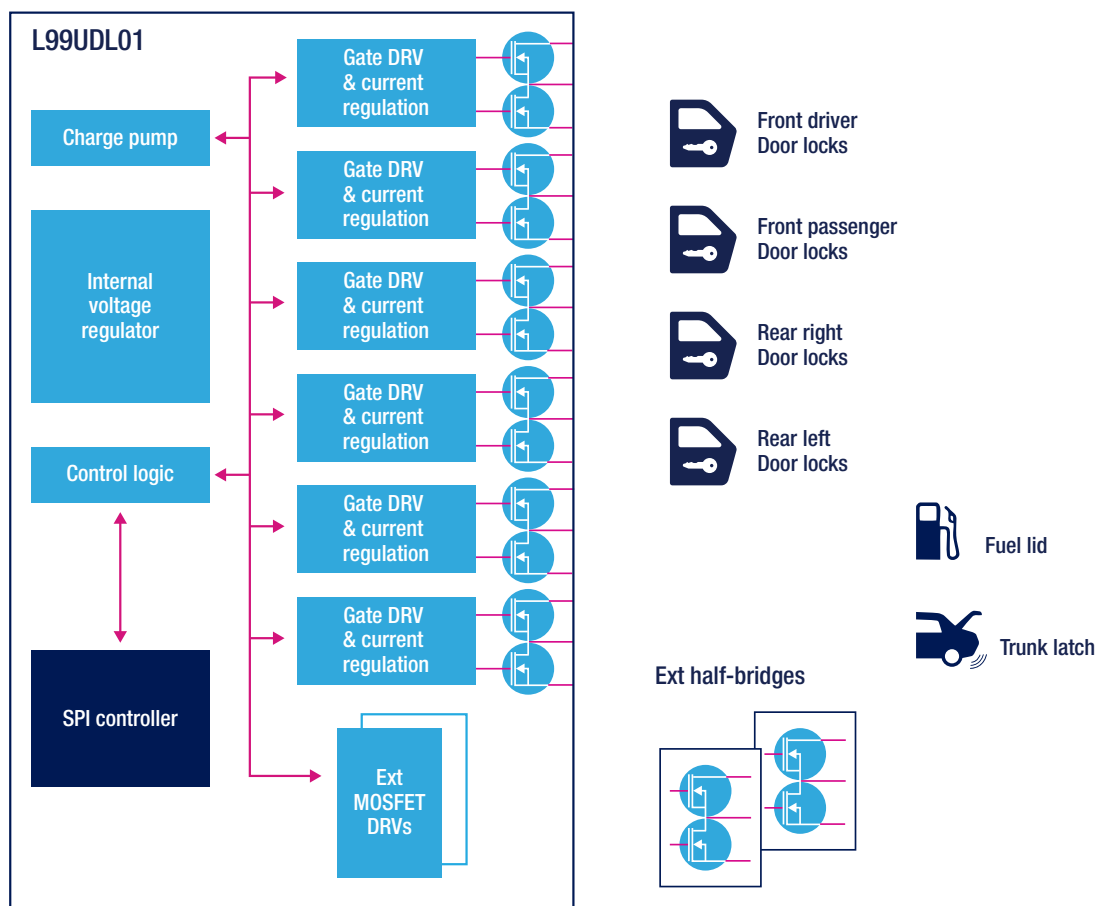
## L99UDL01 FEATURES

The L99UDL01 is a “6+2” channel monolithic half-bridge driver IC designed to power a centralized door locking system. This device incorporates current-regulated drivers, limiting the current in the door-lock motors to a pre-set level (for example, to the current levels seen in a 9 V battery).

The current is regulated by controlling the PWM duty cycle at a programmed frequency. The L99UDL01 also allows designers to combine the six integrated half-bridge outputs into two groups of up to three outputs each. Thanks to the two external half bridges, the L99UDL01 provides a highly

flexible central door lock actuator control solution. The high-level diagnostics (including open load, short-to-ground, short-to-battery and load integrity via 10-bit current feedback) make this device suitable for many automotive applications.

## L99UDL01 BLOCK DIAGRAM



## DEVICE SUMMARY

Part number	Package	Extended operative range	Door Lock Actuator driver	Serial Interface
L99UDL01	TQFP64L	5 to 26 V	6 x current-regulated integrated half bridges (RDS <sub>ON</sub> = 90 mΩ) 2 x half-bridge drivers	SPI

