

STMicroelectronics powers 48V mild-hybrid efficiency with flexible automotive 8-channel gate driver

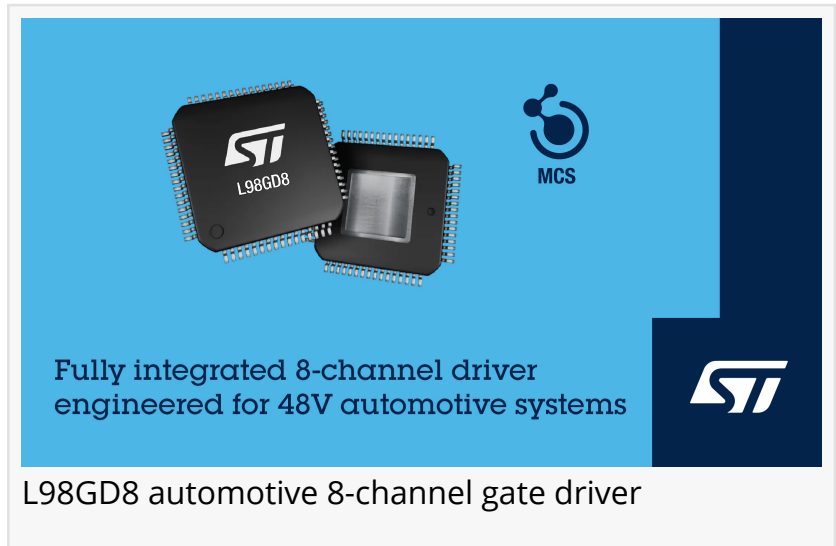
GENEVA, SWITZERLAND, October 8, 2025 /EINPresswire.com/ -- Ready for 48V automotive power architectures, the [L98GD8](#) driver from STMicroelectronics has eight fully configurable channels for driving MOSFETs in flexible high-side and low-side configurations. Able to operate from a 58V supply, the L98GD8 provides rich diagnostics and protection for safety and reliability.

The 48V powernet lets car makers increase the capabilities of mild-hybrid systems including integrated starter-generators, extending electric-drive modes and enhancing energy recovery to meet stringent new, globally harmonized vehicle-emission tests. Powering additional large loads at 48V, such as the e-compressor, pumps, fans, and valves further raises overall electrical efficiency and lowers vehicle weight.

ST's L98GD8 assists the transition, as an integrated solution optimized for driving the gates of NMOS or PMOS FETs in 48V-powered systems. With eight independent, configurable outputs, a single driver IC controls MOSFETs connected as individual power switches or as high-side and low-side switches in up to two H-bridges for DC-motor driving. It can also provide peak-and-hold control for electrically operated valves. The gate current is programmable, helping engineers minimize MOSFET switching noise to meet electromagnetic compatibility (EMC) regulations.

Automotive-qualified and featured to meet the industry's high safety and reliability demands, the L98GD8 has per-channel diagnostics for short-circuit to battery, open-load, and short-to-ground faults. Further diagnostic features include logic built in self-test (BIST), over-/under-voltage monitoring with hardware self-check (HWSC), and a configurable communication check (CC) watchdog timer.

In addition, overcurrent sensing allows many flexible configurations while the ability to monitor



the drain-source voltage of external MOSFETs and the voltage across an external shunt resistor help further enhance system reliability. There is also an ultrafast overcurrent shutdown with dual-redundant failsafe pins, battery-undervoltage monitoring, an ADC for battery and die temperature monitoring, and H-bridge current limiting.

The L98GD8 is in production now, in a 10mm x 10mm TQFP64 package. Budgetary pricing starts at \$3.94 for orders of 1000 pieces.

Please visit <https://www.st.com/l98gd8-48V-systems> for more information.

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