STMicroelectronics' VIPower full bridge with real-time diagnostics cuts complexity and cost of automotive drives

Integrated protections and dedicated output-status pin ease design-in to functional-safety and general-purpose low/mid-power DC-motor driven applications

VNH9030AQ integrated full-bridge DC motor driver

GENEVA, SWITZERLAND, January 20, 2025 /EINPresswire.com/ -- STMicroelectronics' VNH9030AQ integrated full-bridge DC motor driver handles diverse automotive uses including functional-safety applications. As well as integrating advanced diagnostics, the driver has a dedicated pin for real-time output status that saves external circuitry and slims the bill of materials.

With RDS(on) of 30mΩ per leg, the VNH9030AQ efficiently handles mid- and low-power DC-motor driven applications such as door-control modules, washer pumps, powered lift gates, powered trunks, and seat adjusters.

Contributing to the driver's high overall efficiency, and also saving external components, integrated non-dissipative current-sense circuitry monitors the current flowing through the device to distinguish each motor phase. The standby power consumption is very low over the full operating-temperature range, easing use in zonal controller platforms.

The VNH9030AQ integrates the high-side and low-side MOSFETs with gate drivers, diagnostics, and protection against overvoltage transients, undervoltage, short-circuit conditions, and cross conduction. Flexibility to configure the MOSFETs either in parallel or in series allows use in systems involving multiple motors or to meet other specific requirements.

The new driver is part of a family of devices that leverage ST's latest VIPower M0-9 technology, which permits efficient, monolithic integration of power and logic circuitry. All products feature an innovative 6mm x 6mm thermally enhanced triple-pad QFN package designed for optimal

underside cooling and share a common pinout to ease layout and software reuse.

The VNH9030AQ is in production now and available from $2.48 for orders of 1000 pieces.

For further information please visit www.st.com/vnh9030aq-h-bridge-dc-motor-driver

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