

Highly Robust Gate Drivers Achieve AEC-Q100 Automotive Qualification

[Power Integrations'](#) SID1181KQ, a SCALE-iDriver gate driver for 750-V-rated IGBTs, is automotive qualified. The part expands the company's range of auto-qualified driver ICs, following the introduction of the 1200-V SID1182KQ driver IC. Compact, efficient and highly robust, the new driver IC uses Power Integrations' high-speed FluxLink communications technology to ensure system safety even during fault conditions (see the figure).

FluxLink technology dramatically improves the reliability and isolation capability of the new AEC-Q100-qualified gate drivers, replacing optocouplers and capacitive or silicon-based inductively coupled solutions. SCALE-iDriver devices also include critical protection features such as desaturation monitoring, primary and secondary undervoltage lockout (UVLO) and advanced soft shutdown (ASSD) that protect the switch during short-circuit turn-off.

Comments Michael Hornkamp, senior director of marketing for automotive gate-driver products at Power Integrations: "The SCALE-iDriver family with FluxLink technology supports safe, cost-effective designs for a wide range of IGBT drivers for electric vehicle applications including powertrain, on-board chargers and charger stations, and other high-reliability drivers and inverters."

SCALE-iDriver ICs minimize the number of external components required, eliminating tantalum and electrolytic capacitors and simplifying the isolated power supply, requiring only one transformer secondary winding. A simple two-layer PCB can be used, further increasing design simplicity and easing supply-chain management.

The AEC-Q100-qualified SCALE-iDriver SID1181KQ gate drivers are available now, priced at \$4.81 in 10,000-piece quantities. Technical information is available from the company's [website](#).

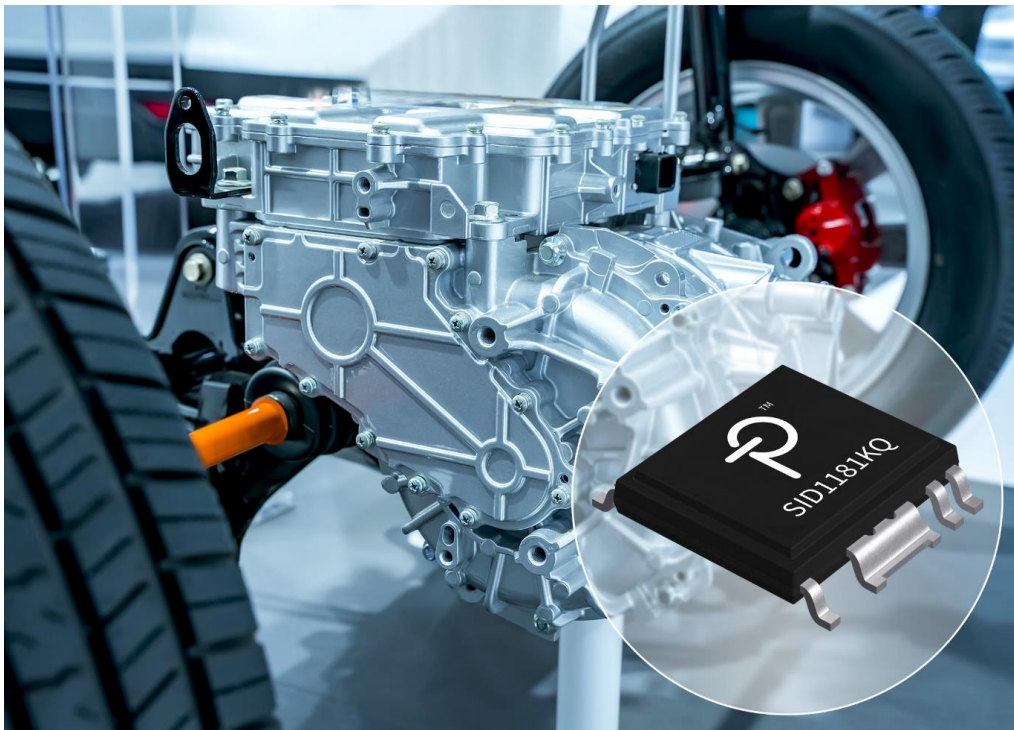


Figure. The SID1181KQ is a single-channel IGBT and MOSFET driver in an eSOP package. Reinforced galvanic isolation is provided by Power Integrations' solid insulator FluxLink technology. The device's 8-A peak output drive current enables the product to drive IGBTs and MOSFETs up to 600 A (typical) without any additional active components. The AEC-Q100-qualified gate driver targets electric vehicle power trains and on-board chargers as well as charger stations and other high-reliability drivers and inverters.