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## *Half-Bridge Gate Driver IC Enhances Reliable Start-Up Operation*

An addition to the EiceDRIVER 200-V level-shift gate driver family, Infineon Technologies' IRS2007S half-bridge gate-driver IC features undervoltage-lockout (UVLO) for $V_{CC}$ and $V_{BS}$, ensuring a higher reliability in start-up operations than previous product generations. The IC comes in a standard SOIC-8 (DSO-8) package and is tailored for low-voltage (24 V, 36 V, and 48 V) and medium-voltage (60 V, 80 V, 100 V, and 120 V) motor control applications in battery-powered devices. Typical applications include power tools, household and garden equipment, as well as in light electric vehicles such as e-bikes and e-scooters, and in e-toys like drones (see the figure).

The IRS2007S includes integrated deadtime and shoot-through protection. It also features low quiescent currents, tolerance of negative transient voltage and dV/dt immunity. Therefore, the gate driver ensures the device reliability and reduces the BOM. Similar to other members of the 200-V level-shift gate driver family, the IRS2007S also uses Infineon's advanced high-voltage IC technology to realize a compact, efficient and robust monolithic construction. A smaller MLPQ 4x4 14L (VQFN-14) package option is also available in the family.

The 200-V level-shift gate driver family comprises three-phase, half-bridge, and high- and low-side gate-driver ICs, in both, silicon-on-insulator (SOI) and junction isolation (JI) options. The three-phase gate driver ICs use Infineon's SOI technology to provide functional isolation with high $V_S$ robustness and reduced level-shift losses. Additionally, the SOI solution comes with integrated bootstrap diodes (BSD) to further reduce overall cost, simplify layout, and reduce PCB size.

DigiKey list price for the IRS2007S is $0.45 each in 1000-unit quantities. More information is available at IRS2007S and www.infineon.com/200VHVIC.

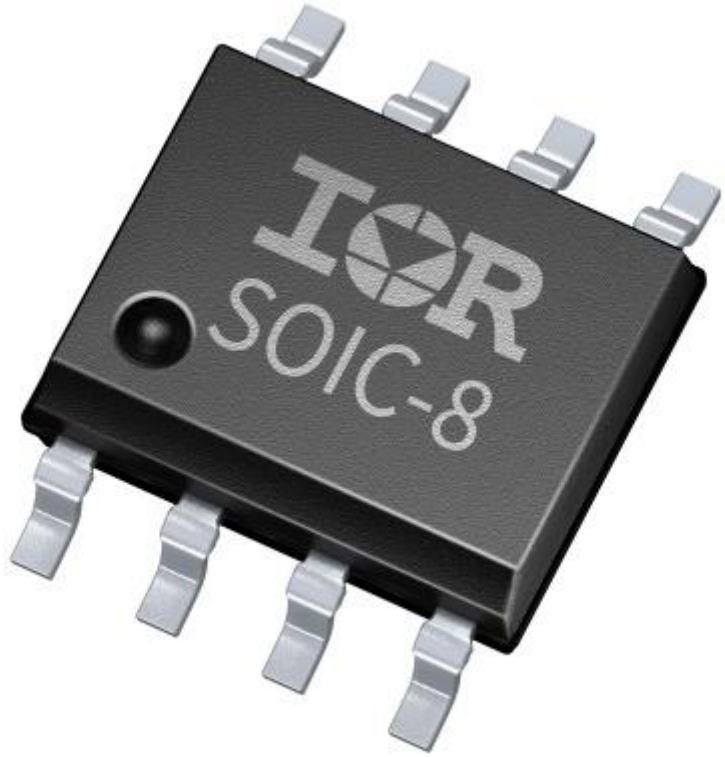


*Figure. The IRS2007S 200-V half-bridge gate driver adds features such as undervoltage-lockout, deadtime and shoot-through protection, and low quiescent current, which translate to improved reliability and reduced system cost compared to previous-generation gate drivers.*