Gen III GaN FET reduces EMI and gate noise immunity for quieter switching

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Power transistors, based on Transphorm's third generation of GaN technology exhibit lower EMI and increased gate noise immunity. The company believes it offers the only JEDEC and AEC-Q101-qualified GaN FETs in the market today.

The TP65H050WS 50mΩ FET and TP65H035WS 35mΩ FET have an increased threshold voltage (noise immunity) of 4.0V, increased from 2.1V for Gen II GaN. This eliminates the need for a negative gate drive, adds the company. They also have a gate reliability rating of ±20V, which is an 11% increase compared with Gen II. Switching is quieter, and the FETs are claimed to deliver performance improvement at higher current levels with simple external circuitry.

External circuitry can include DC-link RC snubbers and switching-node RC snubbers to add further stability without affecting efficiency. The FETs can benefit half-bridge and bridgeless totem-pole PFC topologies.

Optimal output ratings are 1.5 to 5.0kW applications, depending on the design criteria. Suitable applications for the FETs are data centres, renewable power and industrial environments.
The FETs are supplied in standard TO-247 packages. An evaluation kit and Spice model are also available from the company.