

650 V GaN in Data Center Power Supplies



In May 2017, renowned power supply manufacturer Bel Power released the first GaN-based AC-DC power supply, the TET3000. The TET3000 is a 3 kW 1U system targeting data centers with an 80 PLUS Titanium efficiency rating as well as Europe's CE Mark for low voltage products.

To achieve its high efficiency ratings, Bel Power deployed Transphorm's Gen II TPH3205WSB 49 mΩ FET in a bridgeless totem-pole power factor correction (PFC) configuration. This helped the company realize fundamental benefits promised by reliable high voltage GaN semiconductors: higher power density and higher efficiency.

Since releasing its flagship GaN power supply, Bel Power has leverage its design knowledge to expand its GaN-based product line. Today, that product family includes an additional three systems in varied form factors with different power outputs: 1.5 kW, 2 kW, and 2.5 kW.

GaN Data Center PSUs



Transphorm GaN benefits in the TET3000:

- Wider DC input voltage range
- 2-3% PFC efficiency increase
- 5% increase in power density
- 50% improved inductor utilization