

Design-in of LinPak 3.3 kV for MV drives

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LinPak in industrial applications

ABB Power Grids, Semiconductors was the first to launch and ramp up the new dual standard IGBT module, see figure. 1.



Figure 1 - LinPak module

Tens of thousands of pieces have been sold to over 20 customers, mostly in traction applications. From inception, ABB's LinPak uses the latest design criteria, technologies and production equipment. A special focus has resulted in modules with the lowest internal inductance and which can be easily paralleled in customer applications.

Moreover, LinPak is the first module at this voltage level to have an integrated temperature sensor. For similar IGBT module types, the additional sensor enables, for the first time, enhanced data collection and monitoring. For applications like industrial drives, this additional data enables further functionality in relation to predictive maintenance, lifetime management and specific component stress. Furthermore, this data can be used as a feedback loop for improvement in component and system design.

These key features make ABB's LinPak the ideal component for the industrial drives. Most recently, we see our LinPak used in Medium Voltage Drives (MVD) with a Cascade H Bridge (CHB) topology. Our customer, a renowned European MVD manufacturer, offers a family of drives based on the CHB topology that extends an impressive range of 0.4 to 100 MVA in power rating.

The multilevel topology allows a very simple scaling in voltage level by omitting or adding cells, up to 13.9 kV. Our customer chose the LinPak, for this IGBT module allows a converter design with the highest power density and modularity. The versatility of the LinPak design, with its separation of DC and AC connections, leads to an extremely compact inverter design. Furthermore, the excellent paralleling capability of the LinPak is the key enabler for the remarkable drive power range.

ABB Power Grids, Semiconductors has had a strong presence in MVD with its BiPolar and BiMOS semiconductors. Thyristors, Diodes, GTOs, IGCTs and HiPaks from ABB are used in thousands of drives around the world in a variety of topologies and applications. With the advent of LinPak this long tradition is set to continue, and ABB Power Grids Semiconductors will contribute even more to efficient use of electric motors for a greener future.