

## ***IGBTs Addresses A Wide Range Of Applications***

[Microchip Technology's](#) portfolio of IGBT 7 devices offers transistors in different packages, multiple topologies, and current and voltage ranges. Featuring increased power capability, lower power losses and compact device sizes, this portfolio is designed to meet high-growth market segments such as sustainability, e-mobility and data centers. These high-performance IGBT 7 devices are key building blocks for power applications in solar inverters, hydrogen ecosystems, commercial and agricultural vehicles and more electric aircraft (MEA) (see the figure).

Designers can select a suitable power solution based on their requirements. The IGBT 7 devices are offered in standard D3 and D4 62-mm packages, as well as SP6C, SP1F and SP6LI packages. Many configurations are available in the following topologies: three-level neutral-point clamped (NPC), three-phase bridge, boost chopper, buck chopper, dual-common source, full-bridge, phase leg, single switch and T-type. Devices are available with voltage ratings ranging from 1200 V to 1700 V and current ratings ranging from 50 A to 900 A.

"The versatile IGBT 7 portfolio combines ease of use and cost efficiency with higher power density and reliability, offering our customers maximum flexibility. These products are designed for general industrial applications as well as specialized aerospace and defense applications," said Leon Gross, corporate vice president of Microchip's discrete product group.

The lower on-state IGBT voltage ( $V_{ce}$ ), improved antiparallel diode (lower  $V_f$ ) and increased current capability can enable lower power losses, higher power density and higher system efficiency. According to the vendor, the lower-inductance packages, combined with the higher overload capability at  $T_{vj} - 175^{\circ}\text{C}$ , make these devices excellent options for creating rugged and high-reliability aviation and defense applications—such as propulsion, actuation and power distribution—at a lower system cost.

For motor control applications where enhanced controllability of  $dv/dt$  is important, the IGBT 7 devices are designed to offer freewheeling softness for efficient, smooth and optimized driving of switches. These high-performance devices also aim to improve system reliability, reduce EMI and minimize voltage spikes.

The variants of the IGBT 7 portfolio are available to purchase in production quantities. For additional information, see the IGBTs [page](#). To purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services [website](#).



*Figure. Microchip's IGBT 7 portfolio is available in multiple topologies, and current and voltage ranges to address applications ranging from solar inverters and hydrogen ecosystems to data centers, commercial and agricultural vehicles, and even more-electric aircraft (MEA).*