

Plug-and-Play IGBT Gate Drivers Are Ruggedized For Renewable Energy And Other Applications

[Power Integrations'](#) SCALE-2 2SP0430T2XX plug-and-play gate drivers are designed for use with Infineon's PrimePACK3+ and Fuji-equivalent IGBT modules for two-level and three-level applications. The gate-driver board suits industrial, traction, UPS and renewable-energy applications, and provides reinforced isolation for 1200-V and 1700-V IGBT modules (Fig. 1).

Meeting IEC60664-1 and IEC61800-5-1 standards and available in versions that support PD2 and PD3, the 2SP0430T2XX family includes integrated safety features such as UVLO and short-circuit protection plus the new dynamic advanced active clamping (DAAC). DAAC is especially valuable in protecting photovoltaic inverters (PV) and traction drive applications where unstable voltages can cause dc-link voltages to approach maximum values (Fig. 2).

The 2SP0430T2XX gate drivers are available in two different versions for 1200-V and 1700-V PrimePACK 3+ IGBT modules supporting different isolation classes: 5000 Vac (50 Hz/1 min.) and 9150 Vac (50 Hz/1 min.). All models are conformally coated to protect the plug-and-play boards against harsh environments. Peak output gate current is ± 30 A and regulated gate voltage is +15 V/-10 V, delivering up to 4 W output power per channel (at 85°C ambient). Propagation delay is less than 100 ns, with a jitter variation of ± 4 ns.

"Our SCALE-2 technology reduces system BOM and improves reliability by including all key protection features and the dc-dc converter within the driver unit. DAAC ensures that units are optimally protected in case of overcurrent and during short-circuit turn-off," says Michael Hornkamp, senior director of marketing for gate-driver products at Power Integrations,

He adds, "The new 2SP0430T2xx gate driver is a first in the industrial market as it includes a variant for 1700-V PrimePACK IGBT modules that meets PD3 requirements for creepage and clearance distances and is able to operate in three-level applications with a grounded dc-link. This makes devices very easy to use, reducing engineers' development challenges and decreasing time-to-market."

The gate drivers are available now, priced at \$162 each in 100-piece quantities. Technical information is available from the company's [website](#).



Fig. 1. The 2SP0430T2XX plug-and-play gate driver boards are designed for use with Infineon's PrimePACK3+ and Fuji-equivalent IGBT modules for two-level and three-level applications, providing reinforced isolation for 1200-V and 1700-V IGBT modules and meeting standards such as IEC60664-1, IEC61800-5-1, PD2 and PD3.

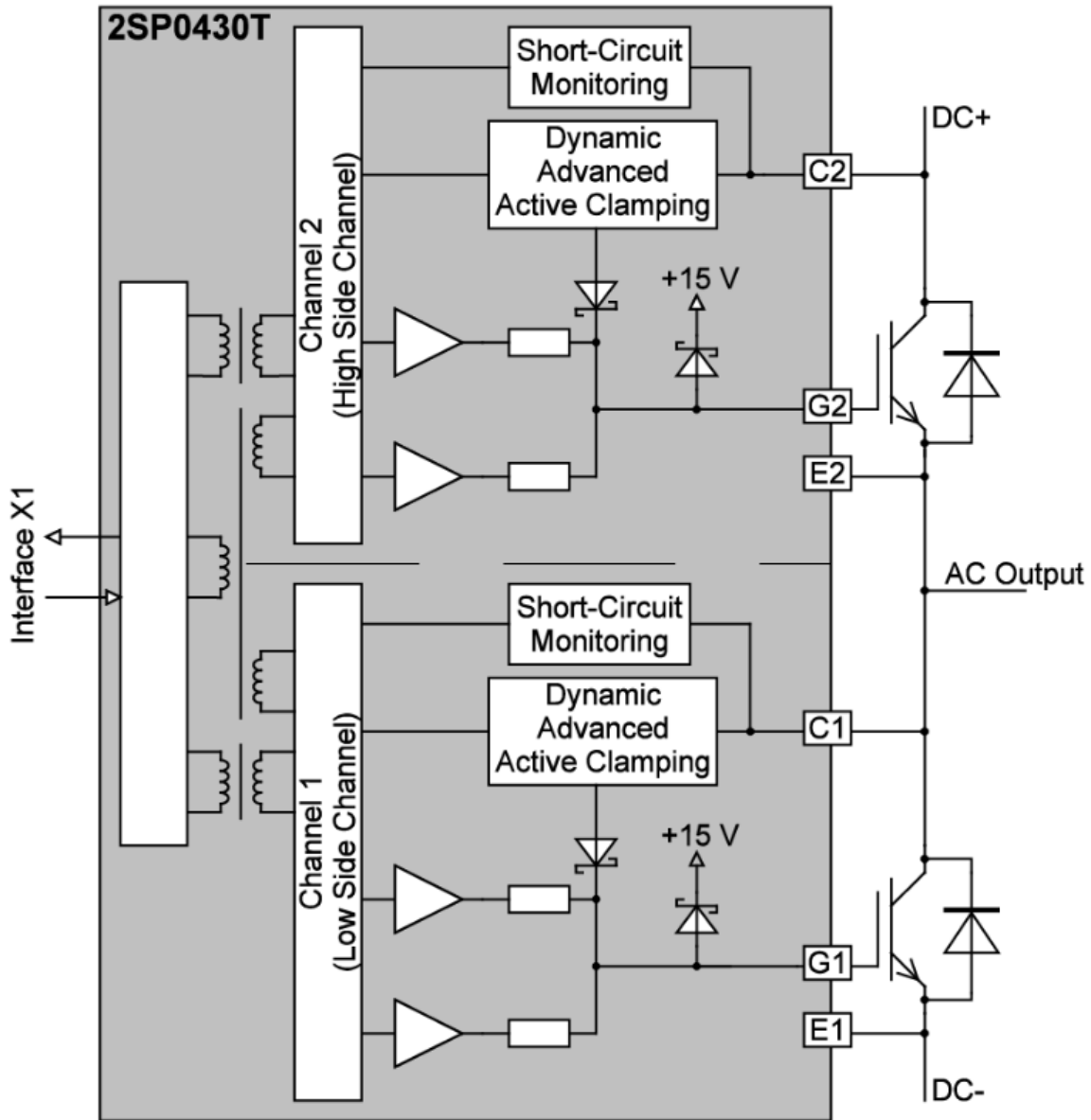


Fig. 2. Members of the 2SP0430T2XX family integrate safety features such as UVLO and short-circuit protection plus the new dynamic advanced active clamping (DAAC). All models are conformally coated to protect the plug-and-play boards against harsh environments.