



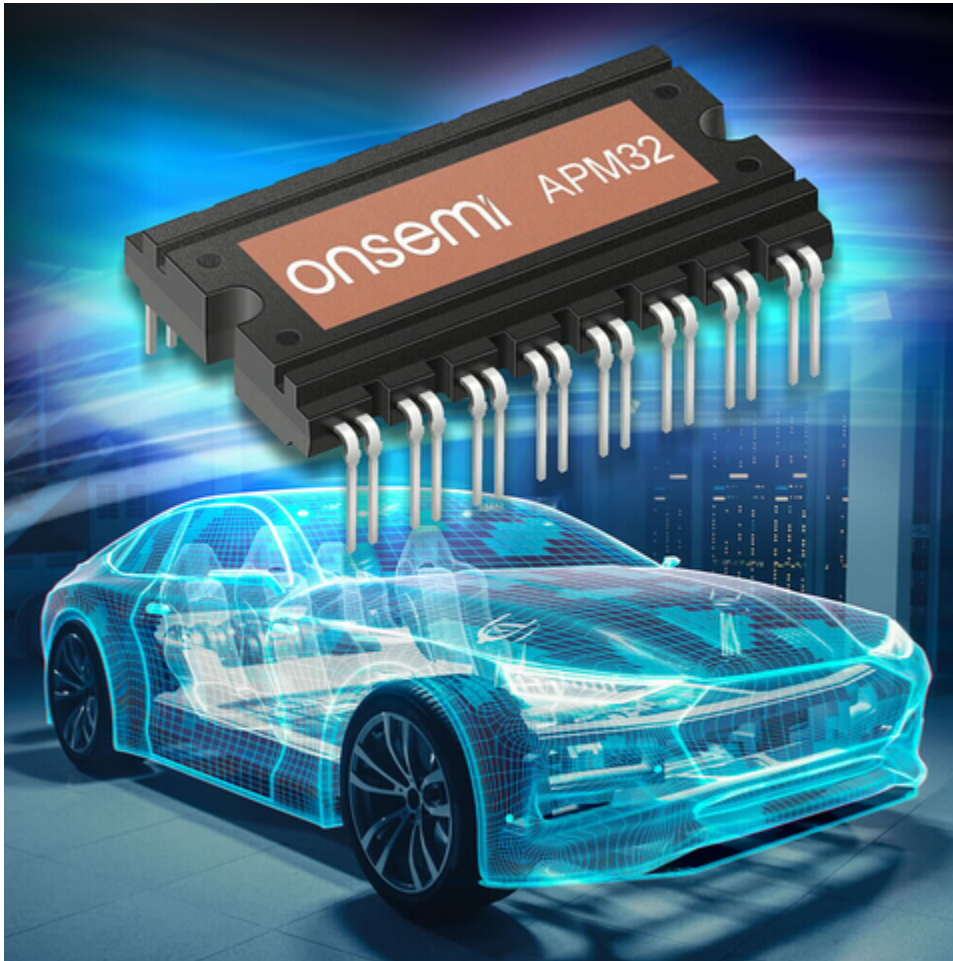
## onsemi Launches Automotive Silicon Carbide-Based Power Module Trio for On-Board Chargers

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*The APM32 series modules enable faster charging and increased range for all types of electrical vehicles*

PHOENIX--(BUSINESS WIRE)--Sep. 28, 2022-- **onsemi** (Nasdaq: ON), a leader in intelligent power and sensing technologies, today announced a trio of silicon carbide (SiC) based power modules in transfer molded technology that are intended for use in on-board charging and high voltage (HV) DCDC conversion within all types of electric vehicles (xEV). The APM32 series is the first-of-its-kind that adopts SiC technology into a transfer molded package to enhance efficiency and shorten charge time of xEVs and is specifically designed for high-power 11-22kW on-board chargers (OBC).

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20220928005884/en/>



(Graphic: Business Wire)

manager, Power Solutions Group at onsemi. “In addition, we know our customers value supply assurance, which our end-to-end SiC supply chain capabilities provide.”

Two modules of the APM32 series, [NVXK2TR40WXT](#) and [NVXK2TR80WDT](#), are configured in H-bridge topology with a breakdown ( $V_{(BR)DSS}$ ) capability of 1200 V, ensuring suitability for high voltage battery stacks. They are designed to be used in the OBC and HV DCDC conversion stages. The third module, [NVXK2KR80WDT](#), is configured in Vienna Rectifier topology and used in the power factor correction (PFC) stage of the OBC. There will be six-pack and full-bridge modules in the near future to complete the SiC OBC portfolio.

All three modules are housed in a compact and robust Dual Inline Package (DIP), which ensures low module resistance. The top cool and isolated features meet the most stringent automotive industry standards. The creepage and clearance distances meet IEC 60664-1 and IEC 60950-1. Additionally, the modules are qualified to AEC-Q101 and AQG 324 for automotive use.

### About onsemi

Each of the three modules exhibits low conduction and switching losses, combining with best-in-class thermal resistance and high voltage isolation to deal with 800V bus voltage. The enhanced efficiency and lower heat generation ultimately allow for a more powerful OBC. One that can charge the xEV faster and increase its operating range – two critical factors for consumers.

“Our new modules employ the latest SiC technology to minimize losses and overall system volume, allowing designers to meet charging efficiency and space goals,” said Fabio Necco, vice president and general manager, Automotive Power Solutions at onsemi. “By adopting the pre-configured modular format, designers are able to configure their designs faster, with significantly lower time to market and design risk.”

Taking advantage of onsemi’s end-to-end SiC supply chain capability and proven SiC MOSFETs and diodes, the APM32 modules offer high levels of reliability, and each module is serialized for full traceability. The modules can operate with junction temperatures ( $T_j$ ) as high as 175°C, ensuring reliability even in challenging, space-constrained automotive applications.

“APM32 provides a differentiated solution for our customers by leveraging onsemi’s best-in-class packaging to unleash the full capability of the leading-edge silicon carbide technology,” said Simon Keeton, executive vice president and general

**onsemi** (Nasdaq: ON) is driving disruptive innovations to help build a better future. With a focus on automotive and industrial end-markets, the company is accelerating change in megatrends such as vehicle electrification and safety, sustainable energy grids, industrial automation, and 5G and cloud infrastructure. **onsemi** offers a highly differentiated and innovative product portfolio, delivering intelligent power and sensing technologies that solve the world's most complex challenges and leads the way to creating a safer, cleaner, and smarter world. **onsemi** is recognized as a Fortune 500<sup>®</sup> company and included in the S&P 500<sup>®</sup> index. Learn more about **onsemi** at [www.onsemi.com](http://www.onsemi.com).

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