



Press release  
Communiqué de presse  
Comunicato stampa  
新聞稿 / 新聞稿  
プレスリリース  
보도자료

P4294I

## STMicroelectronics and SanKen Announce Strategic Partnership to Develop Intelligent Power Modules for High-Voltage Industrial and Automotive Products

- ❖ *Combined power-device expertise creates superior-performing modules*
- ❖ *Boosts efficiency, simplicity, and reliability in customer products*
- ❖ *Engineering samples of industrial IPMs in March 2021 and of auto-grade IPMs second half of 2021*

**Geneva, Switzerland, and Saitama, Japan, October 26, 2020 – STMicroelectronics (NYSE: STM),** STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, and **SanKen Electric Co., Ltd (TSE: 6707),** a leader in innovative technology specializing in semiconductor devices, power modules, and sensors, have collaborated to unleash the performance and practical advantages of intelligent power modules (IPM) in high-voltage, high-power equipment designs.

The two companies are developing and will jointly market 650V/50A and 1200V/10A industrial modules, which simplify design challenges and shrink the bill of materials for HVAC systems, industrial servo drives, industrial washing machines, and general-purpose inverters over 3 kW. The ST/Sanken IPM product roadmap will continue with 650V/50A automotive-grade modules for high-voltage compressors, pumps, and cooling fans.

*“With ST and SanKen contributing their strengths, we can bring these new high-voltage, high-power IPMs to industrial and automotive markets, ensuring superior performance, efficiency, and reliability,”* said Masao Hoshino, Director and Head of Device Business Corporate Headquarters of SanKen.

Marco Monti, President, Automotive and Discrete Group, STMicroelectronics, said, *“These new devices extend our established [STPOWER SLLIMM™](#) portfolio with a High-Power (HP) product line to address applications over 3 kW and introduce our first automotive-grade IPMs that permit sleeker designs and greater reliability.”*

IPMs let designers replace traditional power circuits built using discrete components with a compact, integrated device that simplifies circuit layout and PCB design. This helps accelerate time to market and improve cost-effectiveness and reliability. Leveraging easier manufacturing, faster assembly, and bill-of-materials savings, designers of high-voltage equipment can create new generations of power products that are space-saving, economical, energy-efficient, and robust.

Engineering samples of the industrial IPMs will be available in March 2021 and production will begin soon afterwards. Samples of the automotive-grade devices will be available in second half of 2021.

### **Further technical information:**

The new IPMs integrate a complete inverter stage including six short-circuit rugged [IGBTs](#) with freewheeling diodes, associated high-side and low-side gate drivers in a single package designed optimally for thermal efficiency. Ready to operate in hard switching up to 20 kHz, the modules also contain built-in features for protection and control. These include bootstrap diodes, short-circuit protection, under-voltage lockout protection for gate drivers, a 100 kΩ thermistor for temperature monitoring, and a comparator for fault protection.

Additional benefits that simplify design for users and enhance safety and reliability include:

- 3.3V/5V TTL/CMOS-compatible inputs with hysteresis
- Shutdown input and Fault output
- Separate open-emitter outputs
- Very fast, soft-recovery diodes
- Fully isolated package with isolation rating of 2500Vrms/min

### **About STMicroelectronics**

At ST, we are 46,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An independent device manufacturer, we work with our 100,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and 5G technology. Further information can be found at [www.st.com](http://www.st.com).

### **About Sanken**

Sanken Electric's mission as a company is to provide optimal solutions in the broad and expansive field of electricity and electronics with semiconductors, our core business, power electronics and peripheral fields. We provide products globally for the increasingly electrified automotive industry, as well as for white goods and industrial equipment, which are becoming more energy efficient as demand for electricity increases. Sanken Electric works to constantly innovate its technological capabilities and provides products of assured quality to help solve global environmental and social issues and further develop industry, the economy and culture. Further information can be found at [www.sanken-ele.co.jp/en/](http://www.sanken-ele.co.jp/en/).

### **For Press Information Contact:**

Michael Markowitz  
Director Technical Media Relations  
STMicroelectronics  
Tel: +1 781 591 0354  
Email: [michael.markowitz@st.com](mailto:michael.markowitz@st.com)

Akihiro Goto / Takuya Iwata  
Finance and Investor Relations Division  
Sanken Electric Co., Ltd.  
Tel: +81 48 472 1111