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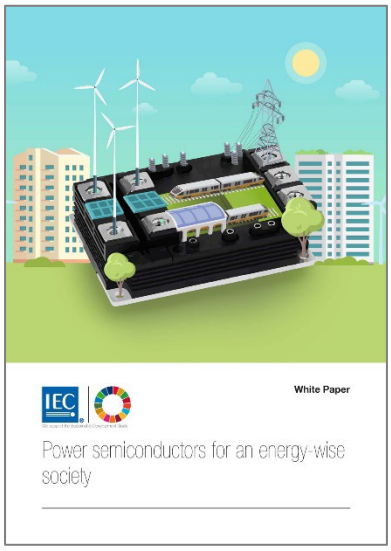
Mitsubishi Electric Plays Lead Role in Drafting 2023 IEC White Paper

Annual paper newly focuses on power semiconductor standardization for carbon neutrality



"Power semiconductors for an Energy-Wise society" White Paper issued by IEC on October 17

TOKYO, October 24, 2023 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today that it played the key role in leading the project to draft the 2023 International Electrotechnical Commission (IEC) White Paper entitled "Power Semiconductors for an Energy-Wise society," which the IEC released on October 17. This is the first time for a White Paper, published annually since 2010, to issue recommendations for developing and expanding international standards and certification systems for power semiconductors.
Each year, the IEC White Paper focuses on electrical, electronic and electromechanical technologies requiring international standardization, and makes related recommendations to the IEC and other organizations.

Power semiconductors, one of Mitsubishi Electric's core product lines, are expected to continue to advance technologically and be increasingly adopted as key devices that reduce power consumption and efficiently convert electrical energy, supporting the global drive toward carbon neutrality by 2050. New materials such as silicon carbide (SiC) are being used in advanced power semiconductors for applications such as renewable

energy and electric vehicles (EVs), but the development of international standards and certification systems for such devices is lagging. A lack of such standards and certifications could lead to a proliferation of nonconforming products and impede cooperation among manufacturers, users and regulators, thereby hindering the healthy growth of the power semiconductor global market.

In response, Mitsubishi Electric initiated a White Paper project within the IEC Market Strategy Board (MSB) in October 2022. Together with experts from around the world, the project team addressed issues related to power semiconductor technologies, markets, and regulations. The resulting White Paper summarizes the applications, sectors and technological trends of power semiconductors and highlights the need for the development, alignment, and expansion of respective international standards and certification systems. In particular, the White Paper focuses on the critical role that power semiconductor standards can play in helping to realize emission-free, carbon-neutral industries for a healthier and more prosperous world.

The main points of the 2023 IEC White Paper include:

- Current status and future trends of society, markets, and technologies related to power semiconductors and applications that are essential for realizing an "Energy-Wise society" in which energy is used wisely and efficiently.
- Challenges facing the power semiconductor industry and solutions for achieving carbon neutrality by 2050 through an integrated approach involving relevant regulatory, industry and international standardization organizations around the globe.
- Recommendations for international standardization bodies, particularly the IEC, to establish a roadmap and guidelines for the development of international standards and conformity assessment systems for power semiconductors.

The White Paper project team was led by Dr. Kazuhiko Tsutsumi, Mitsubishi Electric's specially appointed technical advisor who also serves as IEC Vice President and Chair of the MSB, and included experts from Mitsubishi Electric's Corporate Intellectual Property Division (Tokyo), Mitsubishi Electric's Power Device Works (Fukuoka), Mitsubishi Electric Europe B.V. German Branch (Ratingen, Germany), as well as a team of international experts.

Going forward, Mitsubishi Electric will collaborate with power semiconductor companies, users, and regulatory authorities to establish a roadmap for the creation of power semiconductor international standards as recommended in the 2023 IEC White Paper, with the aim of promoting the healthy growth of the power semiconductor market in the quest for carbon neutrality by 2050.

The White Paper can be downloaded free of charge from the URL below.

https://www.iec.ch/basecamp/power-semiconductors-energy-wise-society

About IEC and IEC Market Strategy Board (MSB)

The International Electrotechnical Commission (IEC) is an international standardization organization that develops and publishes international standards in the fields of electrical and electronic technology, and manages and operates international conformity assessment systems in these fields. The MSB is one of the three IEC's Boards that acts as the IEC's "think tank" and, each year, the MSB publishes a White Paper on major technical trends and market needs that pertain to the IEC's areas of activity. https://iec.ch/homepage

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About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its "Changes for the Better." The company recorded a revenue of 5,003.6 billion yen (U.S.$ 37.3 billion*) in the fiscal year ended March 31, 2023. For more information, please visit www.MitsubishiElectric.com

*U.S. dollar amounts are translated from yen at the rate of ¥134=U.S.$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2023