

## GLOSSARY OF TECHNICAL TERMS

*This glossary of technical terms contains explanations of certain technical terms used in this document. As such, these terms and their meanings may not correspond to standard industry meanings or usage of these terms.*

|                             |   |
|-----------------------------|---|
| “A”                         | ampere, the standard unit of electric current   |
| “AC”                        | alternating current, an electric current that periodically reverses direction, contrasting with DC  |
| “AMB”                       | active metal brazing, a joining technology used to attach thick copper sheets to ceramic substrates, enhancing thermal management and electrical performance  |
| “AQG-324”                   | a standard issued by the European Center for Power Electronics (ECPE) for testing and qualifying power modules used in automotive applications  |
| “ASP”                       | average selling price   |
| “bandgap”                   | the energy difference in semiconductors between the top of the valence band and the bottom of the conduction band   |
| “BEV”                       | battery electric vehicle, a type of EV that is powered entirely by electricity stored in rechargeable battery packs, without the use of an internal combustion engine   |
| “BMS”                       | battery management system, an electronic system embedded within NEVs that monitors, controls and optimizes the performance, safety and longevity of the vehicle’s battery pack  |
| “breakdown voltage”         | the maximum voltage a semiconductor device can withstand (typically in the reverse-biased or off-state condition) before it fails or significant current begins to flow. It indicates the device’s capability to operate under high voltage stress without damage |
| “third-generation B3M chip” | our third generation silicon carbide MOSFET series, produced on a 6 inch platform with lower specific on resistance and switching loss and improved reliability versus the prior generation   |
| “CAGR”                      | compound annual growth rate   |
| “cell”                      | the smallest functional unit in an IC design  |
| “CPLD”                      | complex programmable logic device, a type of digital IC with programmable logic cells and interconnections  |
| “DC”                        | direct current, an electric current that flows in one direction only  |
| “DCM”                       | direct cooled molded, a packaging technology that enhances thermal management by directly cooling the module  |

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| “DC-DC converters” | an electronic circuit that converts a source of DC from one voltage level to another  |
| “design-in”        | a stage in which a product has passed the stringent performance testing requirements of customers, indicating its selection for potential integration into their systems                      |
| “design-win”       | a confirmation from customers adopting a supplier’s product design, indicating the supplier’s ability to meet the customer’s production, delivery and cost requirements                       |
| “die”              | one individual chip cut from a wafer before being packaged  |
| “discrete device”  | discrete components in electronic circuits that perform specific functions  |
| “epitaxial wafer”  | SiC wafer with a thin, high-purity crystalline layer grown on its surface, used as a substrate in semiconductor device manufacturing for improved performance and quality                     |
| “ERP”              | enterprise resource planning, a type of software used to manage and integrate a company’s core business processes in real time  |
| “etching”          | a process used in semiconductor manufacturing to selectively remove layers from the surface of a material, typically to create patterns or structures on a wafer                              |
| “eV”               | electronvolt, a unit of energy used in semiconductor physics, commonly to express bandgap energy  |
| “EVs”              | electric vehicle(s)   |
| “fabless”          | a semiconductor company that does not operate a wafer fabrication plant, but only focuses on design, development and marketing of semiconductor products. Production of designs is outsourced |
| “foundry”          | a semiconductor company that manufactures wafers containing semiconductor products designed by other companies  |
| “FPGA”             | field-programmable gate array, a type of IC that can be programmed and reprogrammed after manufacturing to perform various digital logic functions  |
| “HPD”              | hybrid pack drive, a packaging technology for power modules characterized by high integration, widely used in the main drive of EVs   |
| “HTRB”             | high-temperature reverse bias, a reliability test where devices are subjected to high reverse bias voltage at elevated temperatures to evaluate their long-term stability and performance     |

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| "IATF 16949"  | international technical specification of automotive industry quality management system prepared by International Automotive Task Force (IATF) and ISO  |
| "IC(s)"       | integrated circuit(s), a small unit or package which is made as a single indivisible structure (such as a chip) and is electrically equivalent to a conventional circuit of many separate components                 |
| "IDM"         | integrated device manufacturer, a company that takes charge of design, manufacturing, packaging, testing and subsequent sales of the finished products   |
| "IGBT(s)"     | insulated gate bipolar transistor(s), a type of transistor that combines the high efficiency and fast switching of a MOSFET with the high current and low saturation voltage of a bipolar transistor                 |
| "ISO"         | the International Organization for Standardization, a worldwide federation of national standards bodies  |
| "ISO 14001"   | the Environmental Management System published by the ISO   |
| "ISO 45001"   | the Occupational Health and Safety Management System published by the ISO  |
| "ISO 9001"    | the International Quality Management System published by the ISO   |
| "JFET"        | junction field effect transistor, used to control current flow in semiconductor circuits   |
| "kW"          | kilowatt, a unit of power equal to 1,000 watts   |
| "micro-pitch" | our fourth-generation devices featuring an even smaller cell pitch than mini-pitch devices   |
| "mini-pitch"  | our third-generation devices featuring small cell pitch  |
| "module(s)"   | packaged components that include integrated circuits or other electronic components, which are used to build larger systems or devices   |
| "MOSFET(s)"   | metal oxide semiconductor field effect transistor, used for amplifying or switching electronic signals   |
| "MW"          | megawatt, a unit of power equal to one million watts   |
| "mΩ"          | milliohm, a unit of electrical resistance equal to one-thousandth of an ohm ( $10^{-3} \Omega$ ), commonly used to measure the on-resistance of semiconductor devices, where lower values indicate higher efficiency |

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| “nano silver sintering technology” | A high-performance semiconductor die-attach method that uses nanoscale silver particles to form strong, thermally conductive bonds under heat and pressure, enhancing device reliability and heat dissipation  |
| “NEV(s)”                           | new energy passenger vehicles, comprising battery electric vehicles and plug-in hybrid electric vehicles   |
| “nH”                               | nanohenry, a unit of inductance equal to one-billionth of a henry ( $10^{-9}$ H), commonly used to quantify stray inductance in semiconductor devices, where minimizing inductance is critical for high-speed switching performance  |
| “ns”                               | nanosecond, a unit of time that equals to one billionth of a second  |
| “OBC”                              | on-board charger, one of the key components of NEVs, which converts alternating current (AC) power from external sources, such as residential outlets, into DC power to charge the vehicle’s battery pack  |
| “on-resistance”                    | the total resistance between the drain and source terminals of a field-effect transistor (FET) when it is in operation   |
| “PCB”                              | printed circuit board  |
| “photolithography”                 | a process in semiconductor manufacturing that uses light to transfer patterns onto a wafer, enabling the creation of intricate circuit structures  |
| “power density”                    | the amount of power processed per unit volume or unit area   |
| “PV”                               | photovoltaic, the conversion of light into electricity using semiconducting materials  |
| “PVD”                              | a vacuum deposition method that involves high-temperature vacuum evaporation and sputtering to produce a metal vapor, which is then deposited on electrically conductive materials as a thin, highly adhered pure metal or alloy coating. It is a critical process in the manufacturing of semiconductor devices, enabling the creation of thin films and coatings on substrates |
| “SiC”                              | silicon carbide, a compound of silicon and carbon known for its high thermal conductivity, high breakdown voltage, and efficiency in high-power, high-temperature applications   |
| “sq.m.”                            | square meter(s)  |
| “substrate”                        | a foundational material used in the manufacturing of semiconductor components and PCBs   |
| “three-phase full-bridge module”   | a power semiconductor device that converts DC to three-phase AC using six switching elements arranged in a full-bridge configuration   |

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| “Tier-1 supplier” | a company that supplies parts or systems directly to automotive manufacturers   |
| “UPS”             | uninterruptible power supply, a device that provides emergency power to a load when the main power source fails   |
| “V”               | basic unit of voltage   |
| “W”               | watt, the standard unit of power  |
| “wafer”           | a thin slice of semiconductor material, on which arrays of integrated circuits or discrete devices are fabricated during the manufacturing process                  |
| “xEV”             | A collective term for all types of electrified vehicles, including hybrid electric vehicles, plug-in hybrid electric vehicles, BEVs and fuel cell electric vehicles |