



Press Release

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Complete range of Loctite solder paste solutions for critical electronic applications in modern cars

Henkel offers high-reliability alloy for ADAS assembly

Düsseldorf, Germany – The growth of Advanced Driver Assistance Systems (ADAS) to support autonomous driving is unprecedented and so are the requirements for computing performance. Highly integrated ADAS domain controllers with centralized engine control units (ECUs) are the brain of the system receiving data from cameras, lidar, ultrasonic sensors and radars for perception and fast safety-critical decision making. The reliability of the electronics hardware is critical to long term functionality, making Henkel's 90iSC high reliability alloy essential to solder joint stability for safety critical components

As with other automotive electronic components, the design of ADAS control units is challenged by weight and footprint – miniaturization of components becomes increasingly important. Non-lead packages (without leads or pins sticking out of the side of the package) contribute to optimizing the component footprint on a printed circuit board (PCB). In some cases, it can be optimized from 40 to 80% by changing from standard packages to non-lead packages, when multiplied by the number of components on the control unit the real-state becomes significant.

Automotive solder joints should be designed to be as reliable as possible, because they play a central role in keeping the driver, passengers and pedestrians safe. Each solder joint must provide reliable electrical conductivity and mechanical fixation. Some designers raise concerns about the reliability of the solder joints as non-lead packages expand under thermal stress and shear strain forces may originate micro cracks at the interconnection. In many cases, conventional tin-silver-copper (also



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known as SAC) lead-free solder paste materials are not able to meet the requirements of applications in ADAS and other critical automotive components. That is why Henkel joined together with partners to create the innovative 90iSC alloy. The creep resistance and tensile strength of the 90iSC alloy surpasses targets of SAC and SnPb (tin-lead) alloys at all measured strain rates and temperatures, maintaining a stable grain structure and ensuring assemblies are more robust preventing electrical failures. With its durability and adaptability, 90iSC has become the leading high-reliability, lead-free and RoHS-compliant solder alloy

Henkel offers a complete range of Loctite solder paste solutions capable of exceeding the challenges of harsh environments for safety-critical electronic applications, and compliant with the automotive engineering test MS184-01 for high stress components maintaining a stable interconnection with more than 75% original solder joint strength after thermal cycling.

For more information about Henkel's 90iSC alloy please visit www.henkel-adhesives.com/electronics.

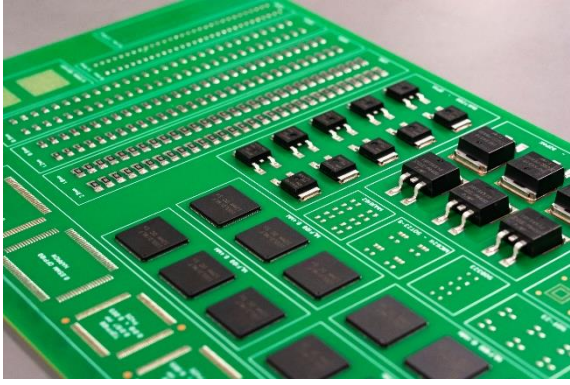
About Henkel

Henkel operates globally with a well-balanced and diversified portfolio. The company holds leading positions with its three business units in both industrial and consumer businesses thanks to strong brands, innovations and technologies. Henkel Adhesive Technologies is the global leader in the adhesives market – across all industry segments worldwide. In its Laundry & Home Care and Beauty Care businesses, Henkel holds leading positions in many markets and categories around the world. Founded in 1876, Henkel looks back on more than 140 years of success. In 2019, Henkel reported sales of more than 20 billion euros and adjusted operating profit of more than 3.2 billion euros. Henkel employs more than 52,000 people globally – a passionate and highly diverse team, united by a strong company culture, a common purpose to create sustainable value, and shared values. As a recognized leader in sustainability, Henkel holds top positions in many international indices and rankings. Henkel's preferred shares are listed in the German stock index DAX. For more information, please visit www.henkel.com.

Photo material is available at www.henkel.com/press

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Henkel's 90iSC solder alloy is a leading industry solution for electronic applications in automotive