

Wafer Bonder And Debonder Market Size, Share & Trends Analysis Report By Product

The Business Research Company's Wafer Bonder And Debonder Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

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/EINPresswire.com/ -- What Is The Wafer Bonder And Debonder Market



Size And Growth?

In recent times, the wafer bonder and debonder market has seen a robust expansion. It is projected that it will escalate from \$0.97 billion in 2024 to \$1.06 billion in 2025, exhibiting a compound annual growth rate (CAGR) of 9.0%. The remarkable growth in the historical period



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can be traced to heightened usage of silicon-on-insulator (SOI) technology, an uptick in micro-electro-mechanical systems (MEMS) adoption in the automotive sector, an increase in the implementation of complementary metal oxide semiconductor (CMOS) image sensors in handheld devices, a rising emphasis on enhancing yield and throughput in wafer processing, as well as a growing demand for dependable packaging in harsh conditions.

Expectations are high for the wafer bonder and debonder market to undergo substantial growth and reach \$1.48

billion by 2029, fueled by a compound annual growth rate (CAGR) of 8.7%. Various factors such as the growing emphasis on heterogeneous integration in two-and-a-half-dimensional (2.5D) packaging, increased demand for compound semiconductors, continued penetration of artificial intelligence (AI) and high-performance computing devices, fan-out wafer-level packaging adoption surge, and advanced photonics and quantum computing chip development are contributing to this increase. Significant trends predicted for this period consist of wafer-level heterogeneous integration improvements, advanced thermal compression bonding technique evolution, artificial intelligence (AI)-optimized wafer processing systems development, and novel debonding method innovations.

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What Are The Current Leading Growth Drivers For Wafer Bonder And Debonder Market? The burgeoning requirement for sophisticated semiconductor devices is predicted to stimulate the expansion of the wafer bonder and debonder market in the future. Semiconductor devices are electronic elements which use the electric attributes of semiconductor materials to regulate the current of electricity. Factors like swift embrace of state-of-the-art technologies for instance artificial intelligence (AI), the internet of things (IoT), and fifth-generation (5G) wireless technology, that necessitate quicker processing capabilities and increased energy efficiency, are primarily fueling the surge in demand for advanced semiconductor devices. Wafer bonders and debonders play a crucial role in the manufacture of semiconductor devices, as they facilitate the exact merger and severance of wafers in sophisticated packaging and fabrication operations. For example, in July 2024, the Semiconductor Industry Association based in the US reported that global semiconductor industry sales peaked to \$49.1 billion in May 2024, denoting a 19.3% annual ascent from \$41.2 billion in May 2023 and a 4.1% growth from the previous month compared to \$47.2 billion in April 2024. Consequently, the escalating demand for state-of-the-art semiconductor devices is accelerating the expansion of the wafer bonder and debonder market.

Which Companies Are Currently Leading In The Wafer Bonder And Debonder Market? Major players in the Wafer Bonder And Debonder Global Market Report 2025 include:

- · Canon Inc.
- Applied Materials Inc.
- Tokyo Electron Limited (TEL)
- Nitto Denko Corporation
- ASM Pacific Technology Ltd.
- Kulicke & Soffa Industries Inc.
- Shibaura Mechatronics Corporation
- SÜSS MicroTec SE
- EV Group (EVG)
- TAZMO Inc.

What Are The Main Trends, Positively Impacting The <u>Growth Of Wafer Bonder And Debonder</u> Market?

Leading firms in the wafer bonder and debonder market are concentrating on the creation of ground-breaking solutions such as automated die-to-wafer (D2W) hybrid bonding systems to improve precision, scalability, and output in sophisticated semiconductor packaging and 3D integration processes. An automated D2W hybrid bonding system is high-tech semiconductor machinery that facilitates the exact alignment and bonding of individual dies on a wafer utilizing both mechanical and electrical chemical linkages for high-density 3D integration. For example, SUSS MicroTec SE, a manufacturer of equipment and process solutions for microstructuring based in Germany, launched the XBC300 Gen2 D2W platform in May 2025, which is a custom

bonding solution that enhances the company's hybrid bonding offerings. This novel platform solidifies SUSS's reputation as a forerunner in delivering a fully integrated D2W hybrid bonding solution that caters to rigorous manufacturing specifications. The latest process solution by SUSS supports D2W bonding on 200 mm and 300 mm substrates and fulfils the strictest inter-die spacing stipulations. With industry-leading footprint savings of up to 40% and a post-bond precision of less than ±200 nm, it is an exceptional platform for manufacturing high-precision chips.

How Is The Wafer Bonder And Debonder Market Segmented?
The wafer bonder and debonder market covered in this report is segmented

- 1) By Type: Manual Wafer Bonders, Semi-Automatic Wafer Bonders, Fully Automatic Wafer Bonders
- 2) By Technology: Eutectic Bonding, Anodic Bonding, Fusion Bonding, Adhesive Bonding, Other Technologies
- 3) By Application: Micro-Electro-Mechanical Systems (MEMS) Devices, Power Devices, Optoelectronic Devices, Radio Frequency (RF) Devices, Interposers, Other Applications
- 4) By End-Use: Semiconductor, Electronics Automotive: Healthcare, Telecommunications, Other End Uses

Subsegment:

- 1) By Manual Wafer Bonders: Research And Development Bonding, Low-Volume Production Bonding, Prototype Device Bonding
- 2) By Semi-Automatic Wafer Bonders: Small-Scale Production Bonding, Pilot Line Applications, Academic And Laboratory Bonding
- 3) By Fully Automatic Wafer Bonders: High-Volume Manufacturing Bonding, Advanced Packaging Bonding, Micro-Electro-Mechanical Systems (MEMS) And Sensor Mass Production

View the full wafer bonder and debonder market report:

https://www.thebusinessresearchcompany.com/report/wafer-bonder-and-debonder-global-market-report

Which Is The Dominating Region For The Wafer Bonder And Debonder Market? In the Wafer Bonder And Debonder Global Market Report 2025, the Asia-Pacific region held the top spot for the year 2024 and is predicted to be the quickest expanding area in the anticipated period. The report comprises a study of regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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