

## Absolics 获美国政府资助， 玻璃基板产业趋势逐渐明晰

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### 投资要点：

- 根据美国商务部 12 月 5 日公告，商务部向韩国 SKC 的子公司 Absolics 授予 7500 万美元的直接资助。该资金支持将帮助 Absolics 在佐治亚州科文顿建造一座占地 12 万平方英尺的工厂，用于开发半导体先进封装的基板技术。Absolics 的玻璃基板可通过降低功耗和系统复杂性来提高用于 AI 和高性能计算的尖端芯片性能。
- **封装基板向大尺寸迈进，玻璃基板可有效对抗翘曲问题。** 高性能计算需求下，载板朝着更高层数，更大面积的方向发展。大尺寸封装下，硅芯片、基板不同组成部分间 CTE 差异将极易导致翘曲的发生，而相对于有机材料，玻璃 CTE 更接近于硅，能有效对抗封装过程中的翘曲问题。
- **近期科技巨头纷纷入局玻璃基板，玻璃基板产业趋势逐渐明晰。** 据半导体在线公众号，近期英特尔、AMD、三星、LG Innotek 等均高度关注先进封装用玻璃基板技术。2023 年 9 月，英特尔公布了“下一代先进封装玻璃基板技术”，声称玻璃基板将改变整个芯片封装领域。三星已组建由三星电机、三星电子和三星显示器组成的联盟，共同开发玻璃基板，目标是在 2026 年开始大规模量产。AMD 计划在 2025 年至 2026 年之间推出玻璃基板，并与全球元器件公司合作，保持领先地位。
- **投资建议：** 我们认为随着封装基板向大尺寸、高叠层方向发展，封装芯片存在的翘曲问题日渐突出。玻璃基板凭借其其与硅芯片良好的 CTE 匹配度，能有效对抗封装过程中的翘曲问题，玻璃基板成为封装基板未来的技术发展趋势。受益于先进封装下大尺寸 AI 算力芯片更新迭代，玻璃基板产业链有望迎来加速成长，建议持续关注玻璃基板国产进程。
- **风险提示：** 全球宏观经济增长不及预期，终端需求不及预期，国产厂商玻璃基板研究进程不及预期。

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## APPENDIX 1

### Summary

#### Investment Highlights:

The USA Department of Commerce announced a direct grant of 75 million USD to SKC's subsidiary Absolics on December 5. This funding will support Absolics in building a 120,000 square feet plant in Covington, Georgia, to develop substrate technology for advanced semiconductor packaging. Absolics' glass substrates enhance AI and high-performance computing chips by reducing power consumption and system complexity.

Glass substrates effectively counter warping issues in large-size packaging. With high-performance computing demands, substrates are evolving towards higher layers and larger areas. In large-size packaging, CTE differences between silicon chips and substrates can cause warping. Glass CTE is closer to silicon than organic materials, effectively countering warping during packaging.

Tech giants are entering the glass substrate field, clarifying industry trends. According to a semiconductor official account, Intel Corporation, AMD, Samsung, and LG Innotek are focusing on glass substrate technology for advanced packaging. In September 2023, Intel Corporation announced 'next-generation advanced packaging glass substrate technology,' claiming it will transform chip packaging. Samsung formed an alliance with Samsung Electro-Mechanics, Samsung Electronics, and Samsung Display to develop glass substrates, aiming for mass production by 2026. AMD plans to launch glass substrates between 2025 and 2026, collaborating with global component companies to maintain leadership.

Investment advice: As packaging substrates evolve towards larger sizes and higher layers, warping issues in packaging chips become prominent. Glass substrates, with their good CTE match with silicon chips, effectively counter warping, becoming a future trend in packaging substrate technology. Benefiting from advanced packaging and large-size AI computing chip updates, the glass substrate industry chain is expected to accelerate growth. We recommend monitoring the domestic progress of glass substrates.

**Risk Warning:** Global macroeconomic growth weaker than expected, terminal demand weaker than expected, and domestic manufacturers' glass substrate research progress weaker than expected.

## 附录 APPENDIX

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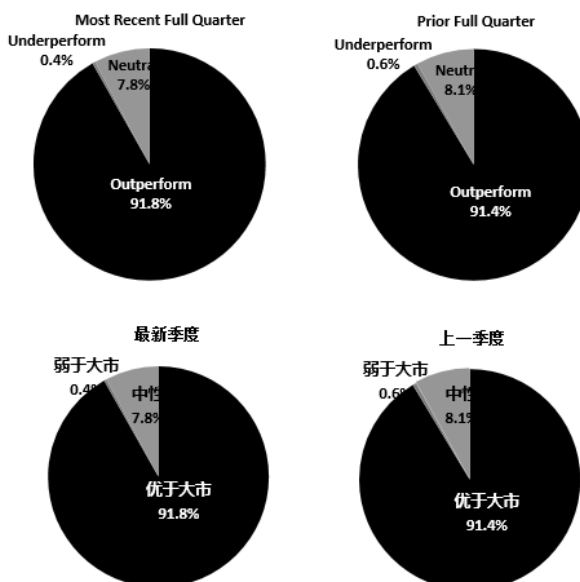
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## Ratings Distribution



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\*在每个评级类别里投资银行客户所占的百分比。

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各地股票基准指数：日本 – TOPIX, 韩国 – KOSPI, 台湾 – TAIEX, 印度 – Nifty100; 其他所有中国概念股 – MSCI China.

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\*Percentage of investment banking clients in each rating category.

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