Global Chiplets Market

Market Research Report | 2024-12-09 | 84 pages | BCC Research

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Report description:

Description

Report Scope
This report offers a comprehensive analysis of chiplets, with a focus on five processor segments: CPUs, GPUs, field-programmable gate arrays (FPGAs), AI-application-specific integrated circuit (AI-ASIC) coprocessors and application processing units (APUs). The report further segments the market by packaging technology, specifically 2.5D/3D, system-in-package (SiP), wafer-level chip-scale package (WLCSP), flip chip chip-scale package (FCCSP), flip chip ball grid array (FCBGA) and fan-out (FO). In addition, the chiplet market is segmented by end users: enterprise electronics, consumer electronics, industrial automation, automotive, healthcare, military and aerospace. The use of chiplets in other sectors, such as IT and telecommunication, scientific research and gaming, is also analyzed. Regions covered include North America, Europe, Asia-Pacific and the rest of the world (RoW), which includes Latin America, the Middle East and Africa.
The study also analyzes the key drivers, macroeconomic factors and regional dynamics of the chiplet market. The report concludes by providing profiles of the leading chiplet manufacturers. The base year for the study is 2023, with market forecasts for 2024 through 2029, including projections of the compound annual growth rates (CAGRs) for the forecast period 2024-2029.
Report Includes

- In-depth assessment of the global market for semiconductor chiplets
- Analyses of global market trends, with market revenue data for 2023, estimates for 2024, forecasts for 2025 and 2027, and projected CAGRs through 2029
- Estimates of the market size and revenue growth prospects, along with a market share analysis by processor type, packaging technology, end use (application) industry and region
- Facts and figures pertaining to the market dynamics, technical advances, regulations, and the impact of macroeconomic factors
- Analysis of the industry structure, including companies' market shares and rankings, strategic alliances, M&A activities, and a venture funding outlook
- Company profiles

Executive Summary

Summary:

Chiplets are revolutionizing the semiconductor industry. Also known as die or chip-on-chip, chiplets are tiny ICs that contain a specific subset of functionality. Smaller and more manageable than chips, chiplets break down complex systems into modular components. These advances enhance manufacturing yield by enabling individual testing, augment design flexibility through the integration of diverse technologies, expedite time-to-market by leveraging proven designs, and decrease costs by implementing more efficient manufacturing processes. This modular approach enables manufacturers to create chips tailored to diverse applications, driving advances in AI and high-performance computing (HPC).

Market Dynamics

The global chiplet market is driven by HPC, AI and 5G technologies. These applications require semiconductors that deliver high performance, low power consumption and smaller form factors. Chiplets, with their modular approach, offer a solution to these challenges by enabling the integration of different functionalities on a single package.

However, the chiplet market also faces challenges, including high manufacturing costs, complex design processes and a shortage of skilled workers. However, the increasing use of 2.5D and 3D packaging technologies, will offset some of these challenges.

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ACHRONIX SEMICONDUCTOR CORP.
ADVANCED MICRO DEVICES INC.
BROADCOM
GLOBALFOUNDRIES INC.
IBM CORP.
INTEL CORP.
NVIDIA CORP.
RANOVUS
SAMSUNG
TAIWAN SEMICONDUCTOR MANUFACTURING CO. LTD.

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