# 2025 Flip Chip and WLP:

## **Trends and Market Forecasts**













Demand for flip chip continues for a wide variety of products from consumer to AI data centers. Fan-in WLP demand continues to be driven by its use in smartphones and other consumer applications. The growing FO-WLP market is divided into four segments: high-density round carrier, low-density round carrier, low-density panel, and high-density panel. The main driver for panel level packaging is cost reduction, but companies are also looking for larger form factors to support the growing body size. Capacity expansion is documented and imbalances in supply and demand across the industry are analyzed.

#### 1 Technology Developments

- 1.1 Fan-in and Fan-out WLPs
- 1.1.1 WLP Reliability
- 1.1.2 Larger Body WLPs
- 1.1.3 WLP Pitch Trends
- 1.2 Panel Developments
- 1.2.1 Panel Types
- 1.2.2 Panel R&D and Production Lines
- 1.3 Bump Pitch Trends
- 1.4 Hybrid Bonding
- 1.5 Substrate and Interposer Trends
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- 1.5.2 RDL Interposers
- 1.5.2.1 Electromigration Concerns
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- 1.5.5 Ceramic Substrates
- 1.5.6 FC-CSP Substrate Trends
- 1.5.7 Leadframe and Molded Substrates
- 1.6 Underfill Material Trends
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- 2.1.2 Gold Bump Capacity
- 2.2 Flip Chip Demand
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  - 2.2.4.5 Preamps for HDDs
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2.2.4.6.2 RF Modules

2.2.4.6.3 Transceivers and Other RF ICs

2.2.4.6.4 RF Filters

2.2.4.7 Wearables

2.2.4.8 Medical

2.2.4.9 Automotive Electronics

2.2.4.10 Military, Aerospace, and Satellites

2.2.4.11 DRAM

2.2.4.12 RFID Tags

#### 3 WLP Trends and Market Projections

- 3.1 Fan-in WLP
- 3.1.1 PMICs
- 3.1.2 Audio Amplifiers and CODECs
- 3.1.3 General-Purpose Analog ICs
- 3.1.4 VCM Drivers
- 3.1.5 Battery Protection
- 3.1.6 Magnetic Sensors
- 3.1.7 Wi-Fi, Bluetooth, NFC, and UWB ICs
- 3.1.8 RF Switches and Tuners
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- 3.1.11 CMOS Image Sensors
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- 3.3.4.2 Application Processors
- 3.3.4.3 PMICs
- 3.3.4.4 RF Components
- 3.3.4.5 Image Sensors
- 3.3.4.6 Power Devices



4801 Spicewood Springs Road • Suite 150 Austin, Texas 78759 Tel: 512-372-8887 • Fax: 512-372-8889 tsi@techsearchinc.com • www.techsearchinc.com

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\_ Exp. Date: \_\_\_\_\_ CVV Number: \_

Contents and specifications subject to change without notice. 11/26/2025

\_\_\_\_\_ (\$9,000 corporate)

Purchase Order Number:

AMEX, Visa, MC: \_\_\_\_\_

Report Price: \$ \_\_\_\_