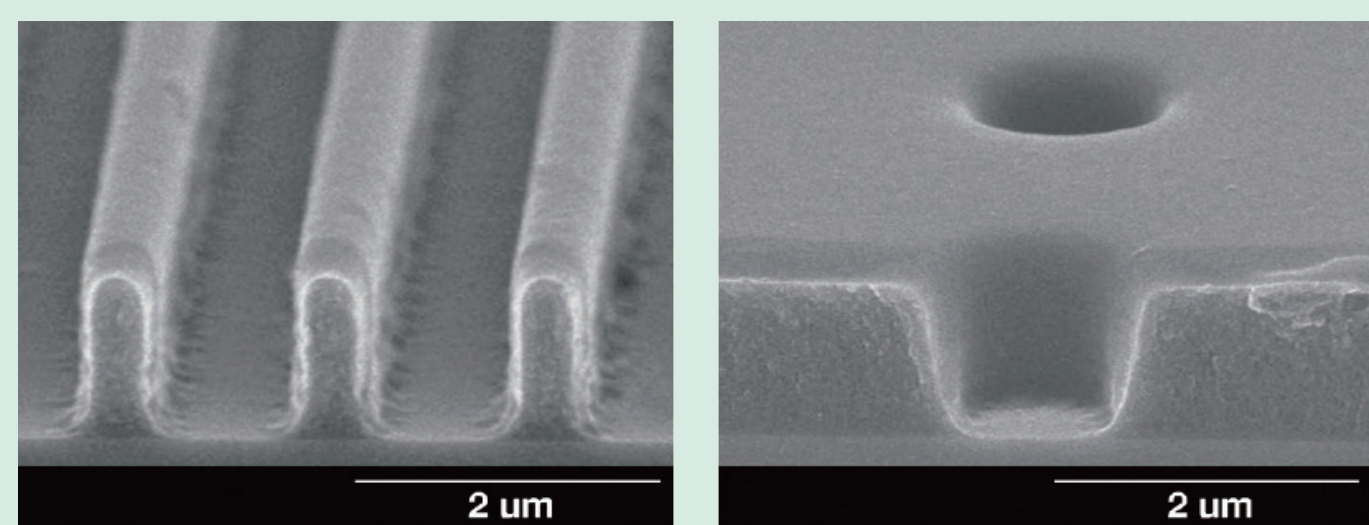


Heat Dissipation Materials

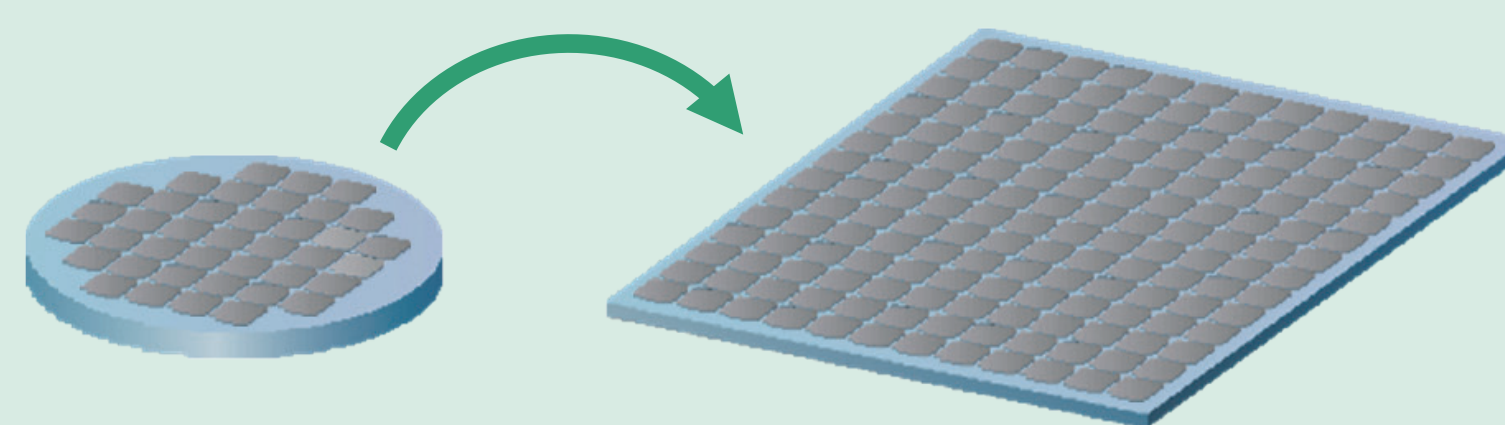
FUJIFILM contributes to the advancement of semiconductor devices by introducing novel **thermal management materials** that address the heat challenges arising from higher integration and advanced stacking architectures.

Evolving customer manufacturing requirements

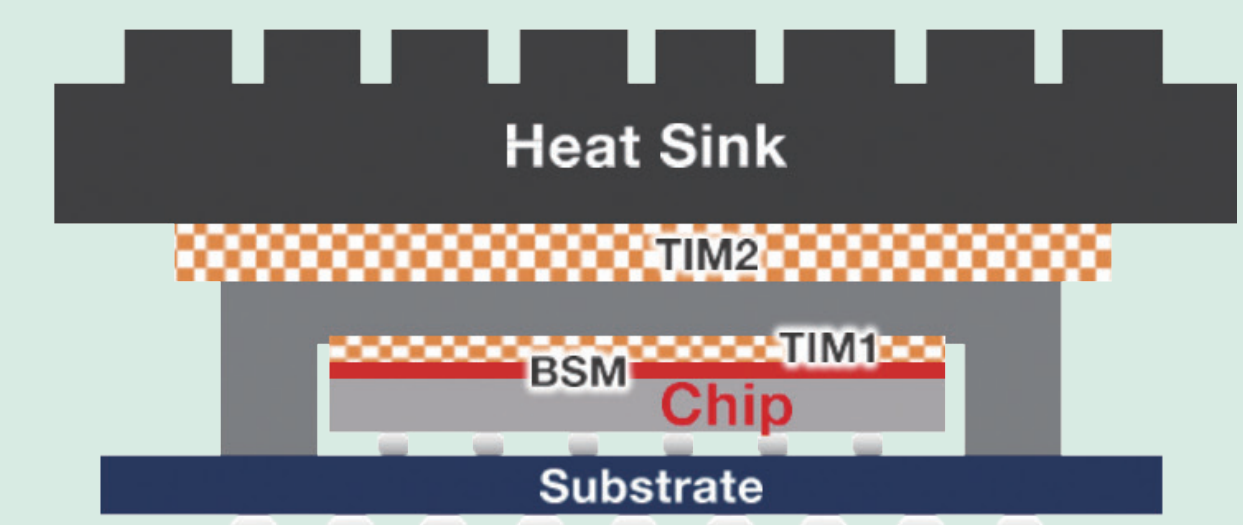
The stacking of multiple chips in driving changes in advanced packaging manufacturing process



Scaling



Larger Substrate Sizes



Changes in package Architecture

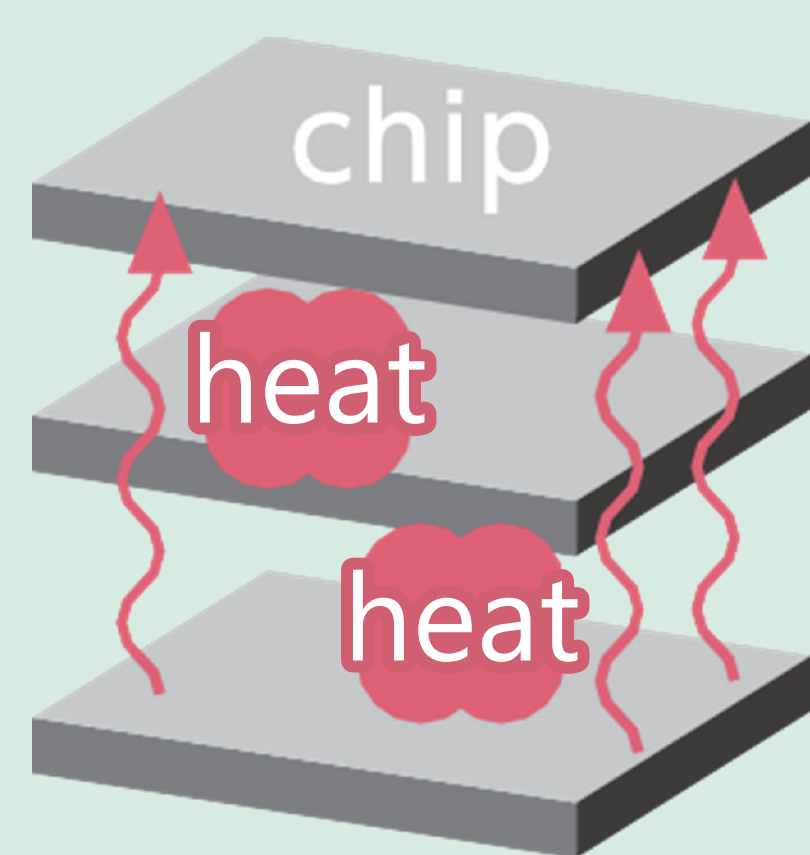


Performance requirement changes

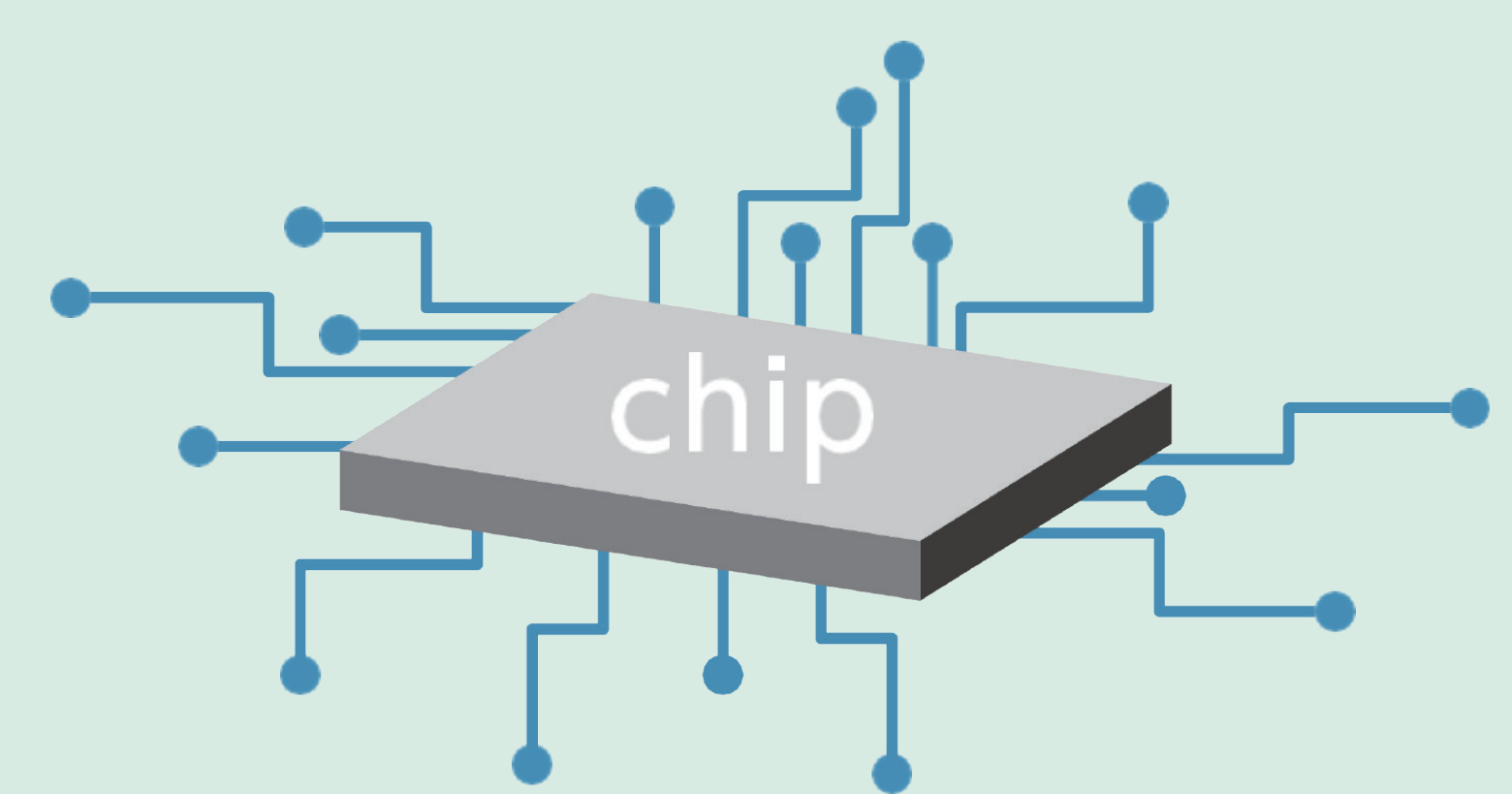
Higher integration reduces available heat dissipation paths, leading to increased thermal confinement.

Higher integration results in narrower interconnects, which degrades electrical efficiency.

Heat



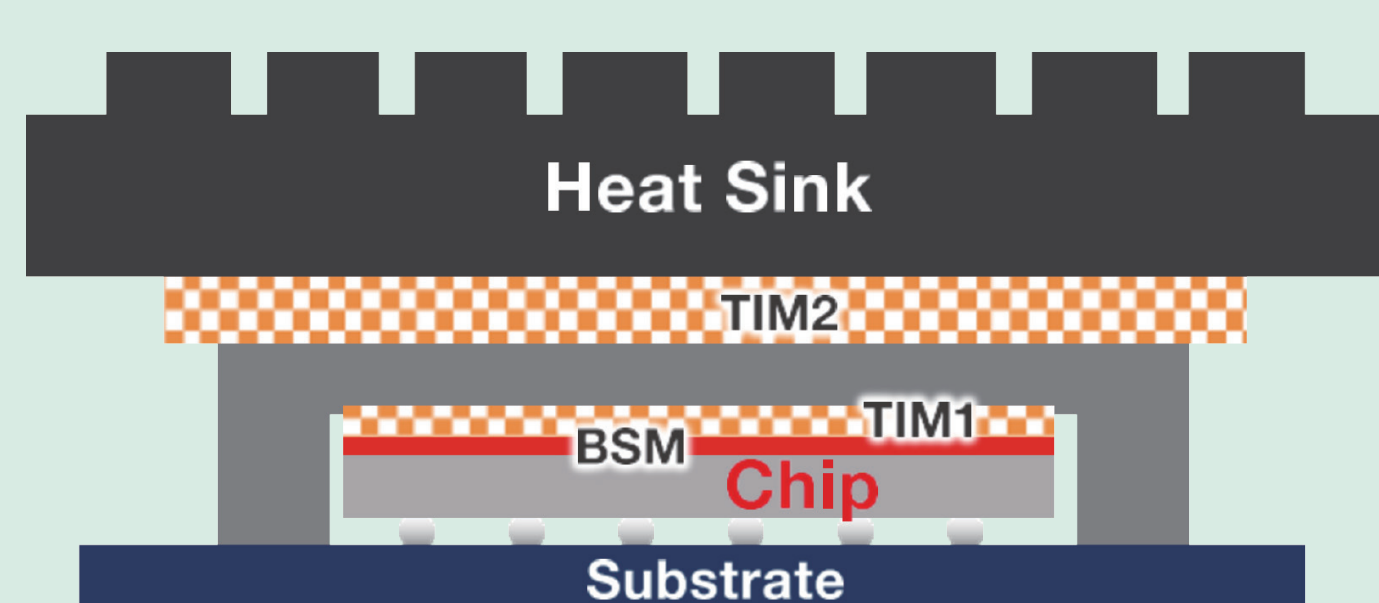
Electrical Characteristics



Thermal Interface Material

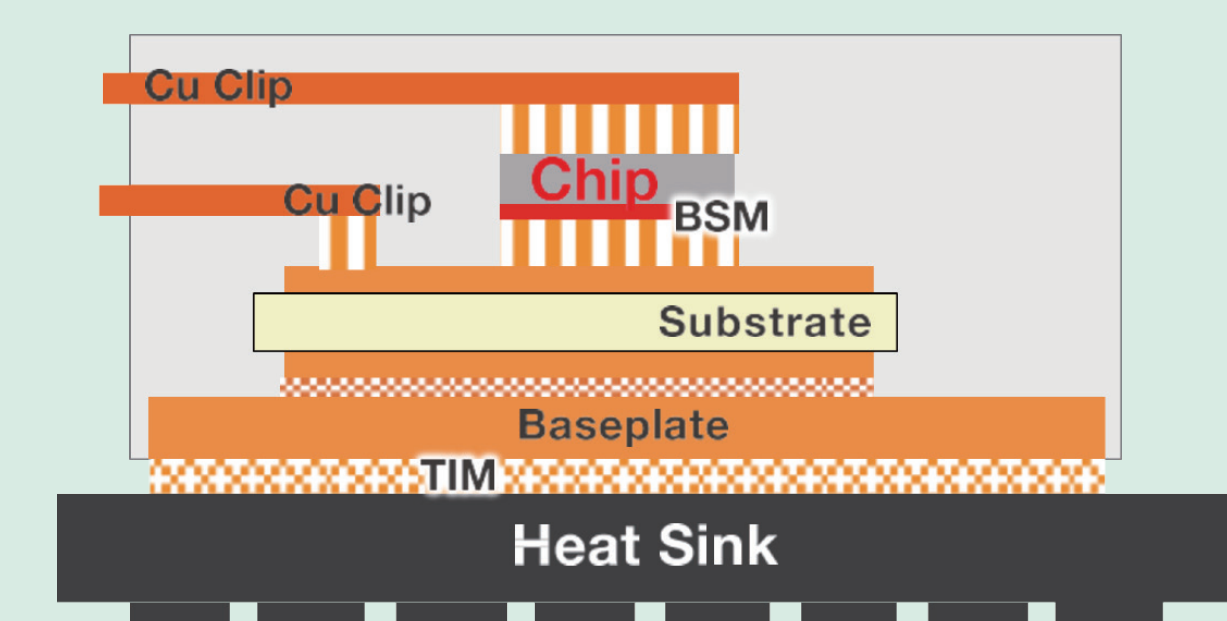
Dielectric Layer

We intend to offer materials that meet evolving market needs, covering thermal solutions for both traditional power devices and advanced packaging applications.



Advanced Package

NEW Material
TIM
(Thermal interface Material)



Power Module Package