低損失增層絕緣材料

Low Loss Build up Film

在AI、5G毫米波通訊及大數據等應用快速發展驅動下，HPC、AI伺服器及高速通訊晶片對高運算效能、高頻寬、高I/O數及高密度封裝的需求持續上升。有機積層型載板採用增層（Build-up）材料堆疊技術，可實現高密度配線、細線寬/線距（Fine Line/Space）及多層互連架構，已成為高階Flip-Chip BGA封裝與先進封裝技術發展的重要關鍵材料。

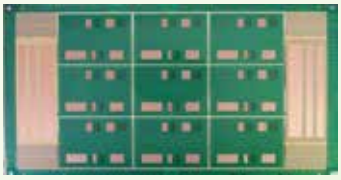
Driven by the rapid growth of AI, 5G mmWave communications, and big data, demand for HPC, AI servers, and high-speed communication chips continues to accelerate, requiring higher computing performance, greater bandwidth, higher I/O density, and advanced packaging integration.
Organic build-up substrates enable high-density routing, fine line/space (L/S), and multilayer interconnections, making them a key technology for high-end FC-BGA and advanced semiconductor packaging.

技術特色

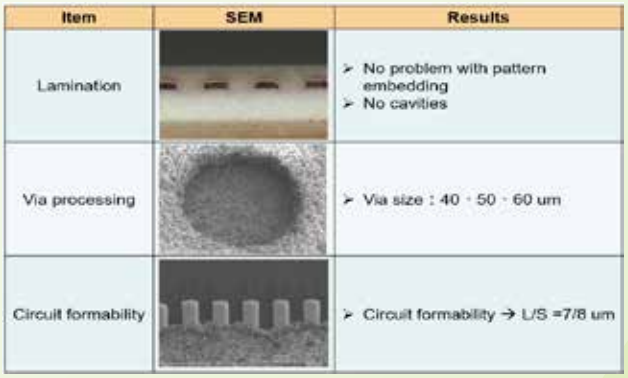
- **具低極性基團改善傳統環氧樹脂高損失特性**
  Low-polarity functional groups for reduced dielectric loss
- **通過可靠度驗證測試**
  High thermal resistance and excellent dimensional stability
- **通過載板廠製程驗證**
  Continuous Roll-to-Roll production



低損失增層絕緣膜材
Low Loss Build up Film



具細線路圖案(Comb + Daisy chain pattern)載板
Fine-line comb & daisy-chain patterned substrate



Low Loss Build up film

Item			MCL	Benchmark
Dielectric property	Dk	10GHz	3.0	3.3 @5.8GHz
	Df	10GHz	0.0028	0.0024@5.8GHz
Glass temperature (Tg，℃)			164	155
CTE(ppm/℃)			29	24
Tensile strength (MPa)			80	107
Elongation(%)			4	2.8
Peel strength (kgf/cm)			0.4	0.45

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