

# Overview of Non-Hermetic Advanced Packaging

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Advanced packaging of semiconductor chips has long relied on highly engineered polymer formulations for encapsulation, underfill, chip attach adhesives, semiconductor substrates (high density printed circuit boards) and various coatings. Inherently these polymer-based materials are formulated to have low moisture absorption but since these are organic polymers, they do not readily provide hermetic packages. The talk will present an overview of various types of semiconductor packages, materials, and processes used to fabricate non-hermetic packages. The critical structure/property/process/performance relationships required to achieve high package reliability will be discussed.