sti electronics

Imbedded Component/Die Technology (IC/DT)

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Enhancement

Technology Description: STI's patented packaging technology coined Imbedded Component/Die Technology (IC/DT) enables the manufacturing and assembly of smaller, lighter, and more technologically advanced high density CCAs through imbedding unpackaged components in a 3-D laminate substrate with integrated thermal management.

Technology Benefits: IC/DT enables the integration of multiple assemblies within a system into a single, advanced, high-density, robust assembly.

Potential Performance Enhancement

- Improve Form, Fit, and Function
- Enhance Design Integration/Scalability
- Reduce Failure Opportunities
- Reduce Component T_J
- Increase Processing/Functional Capabilities
- Reduce Weight
- Increase Assembly Robustness/Reliability
- Meet Miniaturization Objectives
- Improve Thermal Design

Objectives:

- Meet form factor requirements
  - Utilize smallest form and fit factor components, i.e. flip chip, bare die
  - 3-D component placement
- Improve robustness/reliability
  - Low modulus die attach adhesive
  - Flexible wire bond electrical interconnect
- Integrated thermal management design
  - Eliminate external cooling devices
  - Inner thermally conductive core layer and lid