AEC – WORK SHOP SESSION
KNOWN GOOD DIE / MULTI-CHIP MODULE

Tim Haifley – Altera,
Pamela Finer – Pericom Semiconductor
Gary Fisher - Johnson Controls
Tom Lawler – Lattice Semiconductor
Daniel Vanderstraeten – On Semiconductor
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Multi-Chip Modules

Multiple die assembled to provide certain performance
AUTOMOTIVE ELECTRONIC COUNCIL
Work Shop Session

Side by Side Die Packages

Stacked Die Packages
Known Good Die / Multi Chip Modules

- Reliability Concerns -> the details matter
  - Some modules are relatively simple and AEC-Q100 can apply as is.
  - Complex modules will require a thorough FMEA approach to understand and then quantify the risk
    - Multiple materials
    - Multiple silicon sources

- Characterization concerns
  - The module “solution” complicates
    - Fault grading understanding
    - Performance interactions
Known Good Die / Multi Chip Modules

• Existing Industry Standards

  • JESD237 - Reliability qualification of power amplifiers
  • JESD49 - Procurement Standard for Known Good Die (KGD)

  • MIL-PRF-38534 - Hybrid Microcircuits (general performance requirements for hybrid microcircuits, multi-chip modules (MCM) and similar devices)
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Tom Lawler,
Director Quality Assurance
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