Memory Socket Connectors
Product Presentation

Martin Ng
DDR4 Memory is Coming!

- JEDEC specifications for DDR4 DIMM are progressing
- Intel plans to support DDR4 with the Grantley server platform (Haswell EP and EN processors) scheduled for 2014 release
- IHS iSuppli predicts:
  - By 2016 DDR4 will account for more than half of DRAM
  - Total DRAM module shipments is approximately 1.1 billion units
JEDEC

DDR4 Memory Sockets

• Revised Module and Socket Outlines to increase DDR4 DIMM contact count from 284 to 288 are now released to public
  MO-309C released Dec 2013
  SO-016B (PTH) released Sep 2013
  SO-017B (SMT) released Jan 2014
  SO-019B (PF) released Jan 2014

• Proposed DDR4 Performance and Signal Integrity Specifications drafted by not finalized
  Measured PTH on Raptor SI Test boards become available from Intel in January
    Connector suppliers did not fully meet proposed requirements
    Spec limits and differences needs to be addressed within JEDEC
  Shock & Vibration test board to be specified by OEM/ODM

• JC11.14 TG Plans for Q1 2014 & Q2 2014
  Create UDIMM/RDIMM/LRDIMM Performance Specification
    Continue to coordinate with JC45.5 on electrical test boards, S-parameter specifications, combine electrical/mechanical test procedure to one document.
    Measure 288 pin PF and SMT on Raptor SI Test boards
  Continue to progress work on DDR4 SO-DIMM and mini-DIMM specifications
FCI DDR4 DIMM Development Milestones

• Product documentation (available now)
  – Preliminary drawings & 3D models
  – Preliminary product specification (GS-12-1092)
  – Signal Integrity report

• SMT, PTH and PF test results on JEDEC SI test boards – available now

• Project Priorities & Project Timelines
  – Priority Ranking: #1 PTH, #2 SMT, #3 PF
  – PTH Solder
    • samples – available now; mass production – Q3, 2014
  – SMT
    • samples – available now; mass production – Q3, 2014
  – Press-Fit
    • samples – available now; mass production – Q4, 2014
FCI Planned DDR4 DIMM Offering

288 positions, 0.85mm contact pitch, 2.4mm module seating plane

- P/N 10124677 – surface mount
- P/N 10124632 – through-hole solder
- P/N 10124806 – press fit
- Accept modules per MO-309
  - New card edge design for lower insertion force
Features & Benefits

- Sockets provide mechanical voltage keying and end latches for module retention and ejection
- Low insertion-force design require less than 24 pounds force for module installation
- Available solder tail options support use on 1.6mm or 2.4mm thick motherboards
- Press-fit termination option supports use on 1.6mm (minimum) host PCBs
- Contact design protects against stubbing and supports high speed differential signaling at data rates extending to 6.4 Gb/s for DDR4
- Low contact resistance supports RDIMM modules
- Slim latch design optimizes airflow
- RoHS-Compliant and lead-free process
THANK YOU