

High failure detection system with ECC

Zentel's New Proposal

- High Reliability Products Built-in ECC DDR DDR3/3L
- For KGD Reduction of failure rate after SiP assembly





Proposal of Built-in ECC DDR(1/2)



DDR3/3L

Built-in ECC

Can use without being conscious of ECC

Zentel's High Reliability

Products

Notify Failure

Notification of cases that cannot be corrected by ECC

- Row Hammer correspond Unrestricted access
- Wide Temperature Tc=-40°C to 105 or 125°C

System meets ISO26262 / IEC61508 Notify DDR failure to SoC if the failure cannot be corrected by ECC

Reduce system failure rate

Each Built-in ECC DDR has low failure rate

Reduce power consumption and EMI noise Eliminate DDR for ECC

Reduce system cost

Reduce DDR, resistor, capacitor and board area

Application / Regulation

- High Reliability System
- Automotive System / ISO26262
- Industrial/Networking System / IEC61508



Features of Zentel's DRAM with ECC (1)

Functional Safety

To Stop a system safely = Know the broken parts



Features of Zentel's DRAM with ECC (2)

How to Notify Failure Can be connected to any system



- Use NC pin for failure notification terminal
 = No need to change DRAM control program
 - = Easy system design



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Zentel

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