

Rugged SODIMM Standard Beefs up Embedded Board Designs

RSODIMM™ standard leverages familiar connectors, pinout, signal routing

Nuremberg, GERMANY – March 1, 2011 – Apacer Technology Inc., Accelerated Memory Production, Inc. (AMP, Inc.), and Diamond Systems Corporation today unveiled RSODIMM™, a specification for rugged SODIMM memory at the Embedded World 2011 conference in Nuremberg, Germany. The new memory module format offers a cost-effective way to satisfy the reliability requirements of performance-critical embedded computing applications in markets such as transportation, industrial automation, medical, energy, military, and aerospace.

The RSODIMM standard extends the conventional JEDEC SODIMM format by 10mm in the dimension perpendicular to the connector. There, a pair of added mounting holes enables secure attachment of the modules to the host CPU board. The resulting enhanced resistance to shock and vibration enables RSODIMM memory's use in vehicle applications and other harsh environments with greater confidence. The modules have successfully been tested to 12G, per MIL STD 202, and are already designed into a military vehicle application, proving their customer acceptance.

In all other respects – including connector signal assignment and module functionality – RSODIMM and ordinary SODIMM modules are identical. Compatibility with standard SODIMM sockets avoids the need for expensive connectors, leverages familiar layout techniques, and makes it easy to adapt both SBC and memory designs to the new format. Although not mandated by the RSODIMM specification, module suppliers will typically rate their RSODIMM products for -40 to +85°C or -20 to +70°C wide temperature operation, in recognition of the harsh environments in which they are likely to be used.

RSODIMM Features

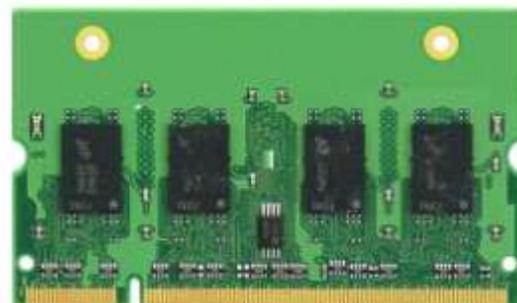
- Initial version is socket, pinout, and functionally compatible with ordinary JEDEC 200-pin DDR2 SODIMMs
- Adds two mounting holes for rigid attachment to host CPU board
- Meets MIL-STD-202G 12G shock and vibration requirements

RSODIMM Benefits

- Enhances system reliability without increasing BOM cost
- Uses familiar PCB layout design rules
- Easy migration path for both SBC and memory module designs
- Customer can choose to use either SODIMM or RSODIMM memory
- Available from multiple memory module suppliers
- Provides space for larger memory capacities



Ordinary SODIMM Memory



Rugged RSODIMM™ Memory

The RSODIMM specification adds 10mm of height plus two mounting holes to the industry standard JEDEC SODIMM form-factor.

"The RSODIMM specification is an open standard, available for use without license," noted Jonathan Miller, founder and CEO embedded computing solutions specialist Diamond Systems Corp., which originated the standard.

"By leveraging ordinary SODIMM connectors and signal assignments, RSODIMM memory enhances the shock and vibration characteristics of single board computer designs without burdening system BOM costs," Miller added. Diamond's recently-announced [Aurora single board computer](#) (pictured at right) is the first industry's first SBC to implement an RSODIMM memory socket.

"The RSODIMM memory standard provides an easy and efficient way for makers of single board computers to enhance the ruggedness and reliability of their products," said Cathleen Plock, VP of Marketing at AMP, Inc., a leading supplier of memory modules. "AMP, Inc. is excited to be among the initial supporters of this important new embedded industry standard."

"The simplicity of the RSODIMM standard allows us to rapidly convert our existing SODIMM designs into more ruggedized solutions for industrial applications and other harsh environments," said Ruey Chang, Business Development Manager of memory module specialist Apacer Technology. "Apacer is proud to be a part of this new standard."



Diamond's Aurora SBC with RSODIMM memory module installed

Availability

Modules compliant with the RSODIMM standard are available from AMP, Inc. and Apacer Technology, and Diamond Systems Corp. supplies RSODIMM memory with its Aurora SBC. The initial RSODIMM version is a DDR2 module in capacities up to 2GB. Additionally, an RSODIMM DDR3 implementation of the standard is currently under development. For further information regarding the RSODIMM specification, visit RSODIMM.org.

MEDIA RESOURCES

- [RSODIMM website](#)
- [RSODIMM vs. SODIMM photo](#) (jpg)
- [SBC with RSODIMM installed](#) (jpg)

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