

Intel's SECC2 Packaging

December 1998

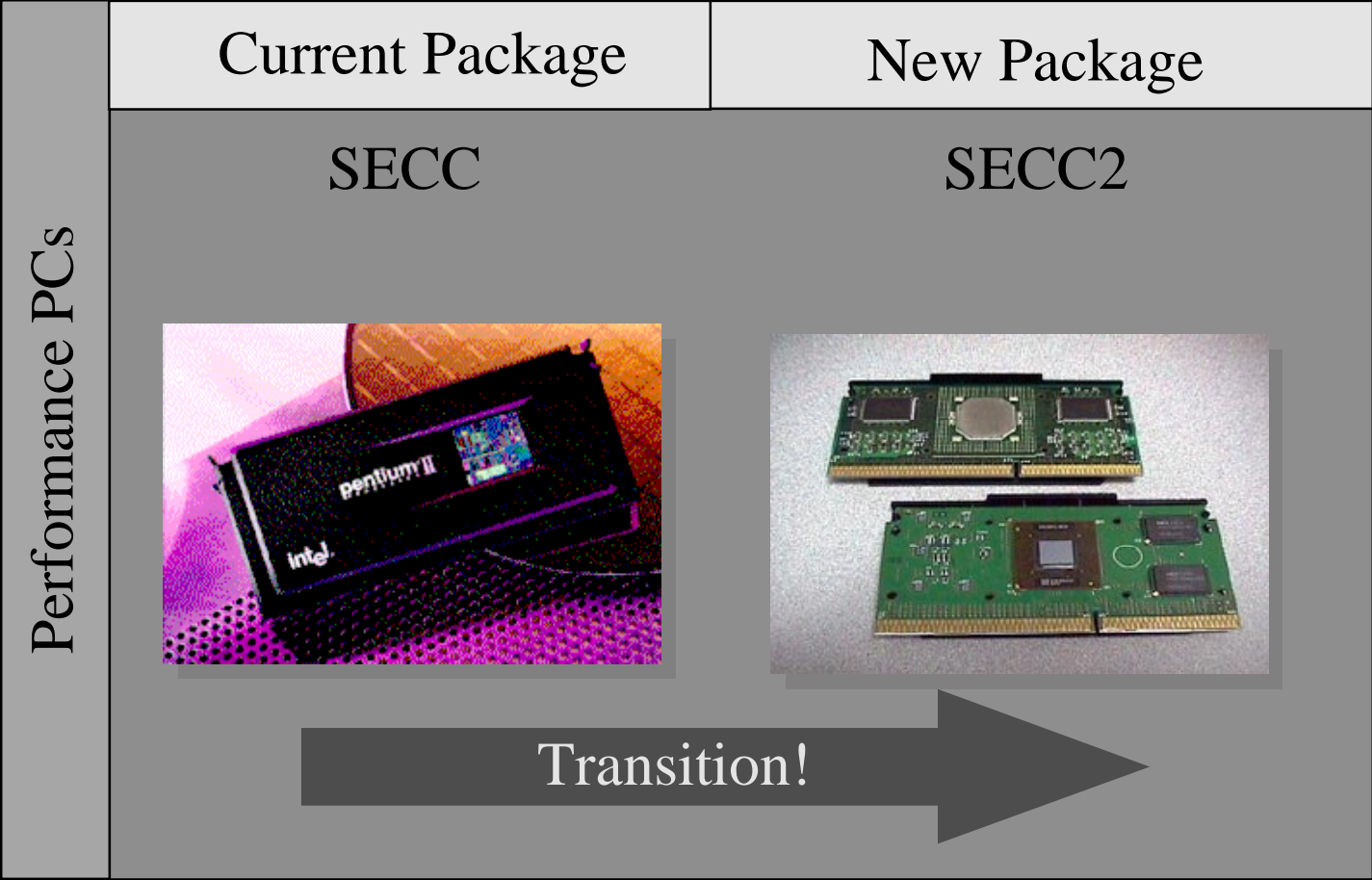
<http://developer.intel.com>

Objective

Provide a consolidated summary and reference of available SECC2 enabling information.

Detailed information pertaining to items described in the presentation will be posted to this website as it becomes available.

Intel Performance PC Package Transition



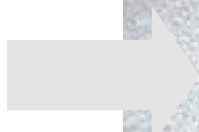
SECC2 Transition Timeframe

- λ **Per PCN #685, Pentium® II 350MHz PLGA core processor became available in the SECC2-PLGA form factor in Nov '98**
 - σ PCN #685 available in the PCN Index on <http://developer.intel.com/design/pcn/IA/index.htm>
- λ **Per PCN #723REV2, Pentium II 400MHz/450MHz converts to SECC2 as well**
 - σ 400MHz available in SECC2-PLGA and SECC2-OLGA
 - σ 450MHz only available in SECC2-OLGA
 - σ PCN #723 available in the PCN Index on <http://developer.intel.com/design/pcn/IA/index.htm>
- λ **Motherboards readiness requires a new retention module:**
 - σ Intel enabled a Universal Retention Module (URM) for SEPP, SECC, & SECC2
 - σ The Intel® Celeron™ processor Retention Module is also SECC2 capable
- λ **New heat sink required for SECC2**
- λ **SECC will maintain very limited availability through '99 at a price premium**
 - σ SECC product discontinuance notification planned in Q2 '99

SECC2 Package

- Two versions (PLGA version is limited)

PLGA



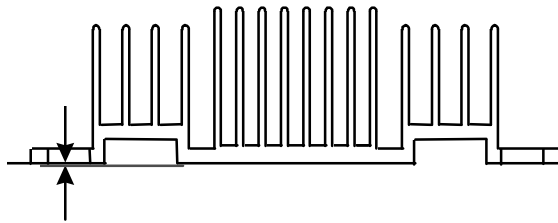
OLGA



- PLGA SECC2 and OLGA SECC2 each require unique heatsink
- Same clip, retention mechanism, thermal interface material, and assembly/disassembly tools

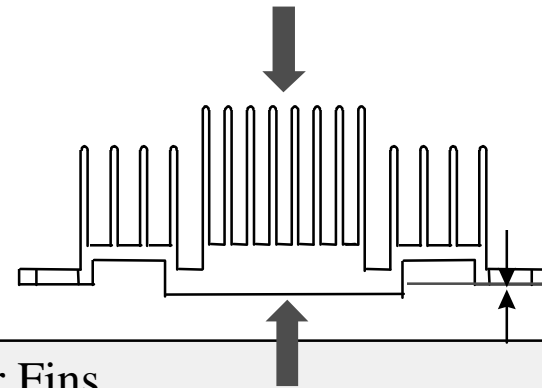
PLGA/OLGA Heat Sink Differences

PLGA



Inside of flange is coplanar with processor interface surface.

OLGA



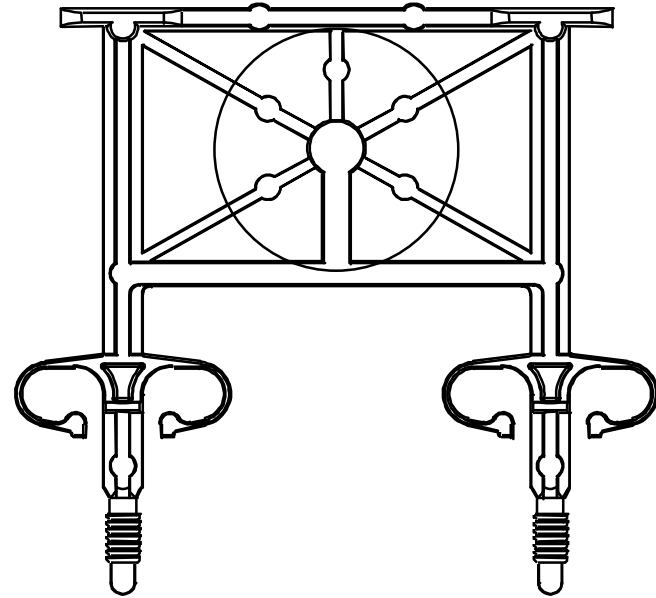
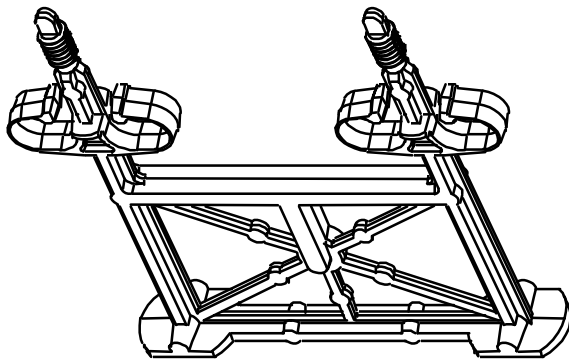
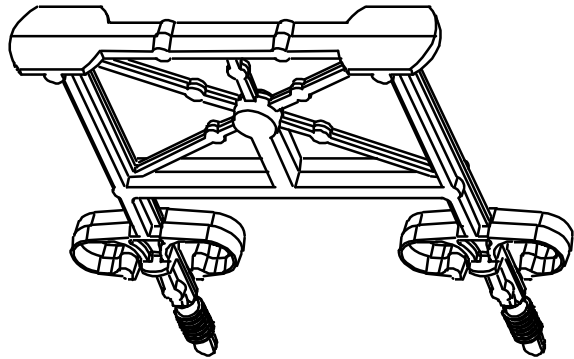
- Taller Fins
- Thicker Base
- Inside of flange is offset 0.050" from processor interface surface

Thermal Metrology varies.

See Pentium[®] II processor datasheet on developer.intel.com

Order Number 243657-003

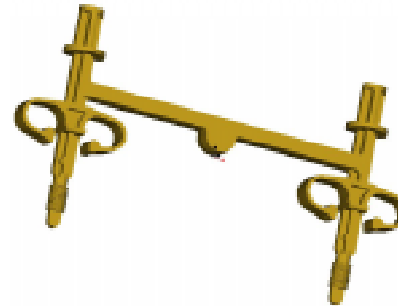
Heat Sink Clip



- Intel has enabled this heat sink clip.
- See the “Support Components” on developer.intel.com for suppliers

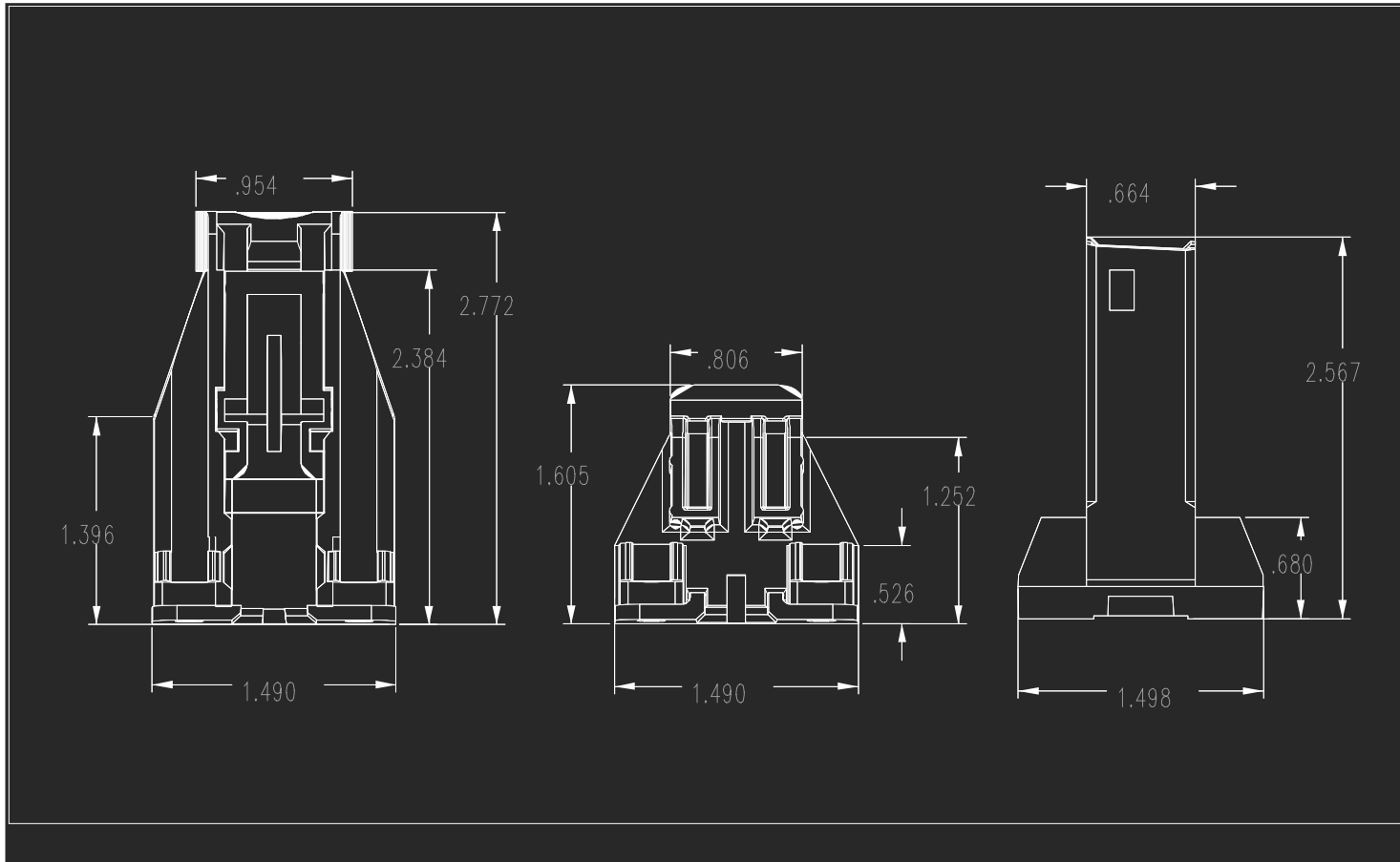
Active Heat Sinks

- **A boxed processor is also available which is complete with active heatsink**
 - ▲ See Pentium® II processor datasheet on developer.intel.com
 - ◆ Order Number 243657-003
- **Active Heat Sink solutions are being enabled**
 - ▲ Watch “Support Components” on developer.intel.com for suppliers
 - ◆ PLGA solution uses custom heat sink attach process
 - ◆ OLGA solution requires plastic clips
- **Active Heat Sink Clips**
 - ▲ Intel has developed a clip for use with active heatsinks as well
 - ▲ Watch “Support Components” on developer.intel.com for suppliers

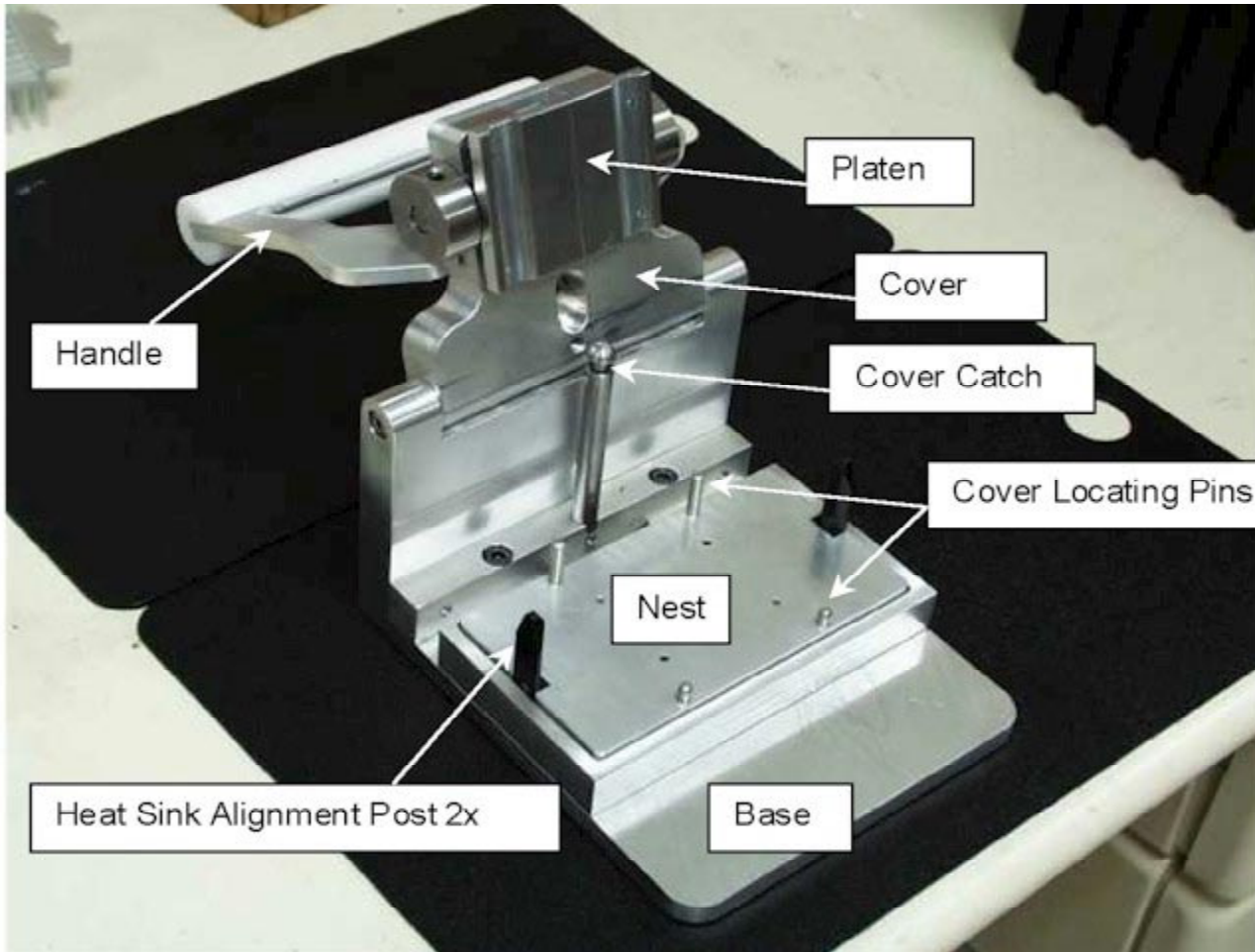


URM, S.E.P.P., S.E.C.C. Retention Mechanisms

- Consider the amount of the retention mechanism flex when designing motherboard layout



SECC2 Heat Sink Assembly Fixture

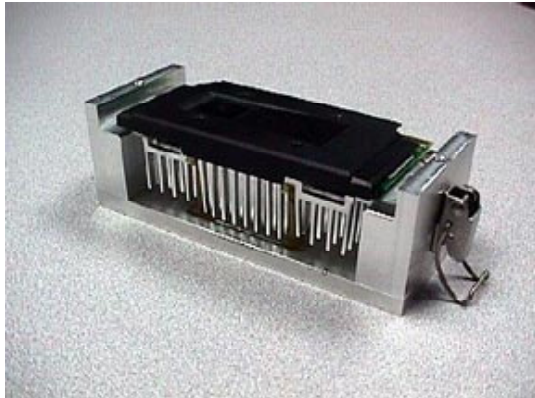


Vendor : Napco

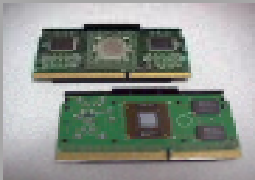
Designed only for the Intel-enabled clips for both PLGA and OLGA SECC2 packages

SECC2 Heat Sink Disassembly Fixture

Vendor : Napco



Intel Processor Packaging Summary Table

	<i>SECC</i>	<i>SECC2</i>	<i>SEPP</i>	<i>PPGA</i>
				
<i>Heat sink Weight</i>	<i>ATXV2 237 grams</i>	<i>SECC2 Heat sink 130 grams</i>	<i>SEPP only H/S 130 grams</i>	<i>PPGA H/S 85 grams</i>
<i>Dissipation</i>	<i>40 Watts</i>	<i>36 Watts</i>	<i>20 Watts</i>	<i>35 Watts</i>
<i>Attach Locations</i>	<i>Interfaces with thermal plate</i>	<i>Substrate holes</i>	<i>Substrate holes</i>	<i>Attaches to top of component</i>
<i>Connector</i>	<i>SC242</i>	<i>SC 242</i>	<i>SC 242</i>	<i>PGA370 Socket</i>
<i>Heat sink support</i>	<i>Required</i>	<i>Not Required</i>	<i>Not Required</i>	<i>Not applicable</i>
<i>Retention Mechanism Support</i>	<i>Universal RM Standard RM Integrated RM</i>	<i>Universal RM Intel®Celeron™ RM</i>	<i>Universal RM Intel Celeron RM</i>	<i>Not applicable</i>
<i>Heat sink Clip</i>	<i>Riv screws</i>	<i>SECC2 H/S Clip</i>	<i>Intel Celeron SEPP H/S clips</i>	<i>Similar to Socket 7</i>
<i>Thermal Interface Options</i>	<i>Various</i>	<i>Chomerics 443 Thermal Grease</i>	<i>Chomerics 7-10 Thermal Grease</i>	<i>Chomerics 443 Thermal Grease</i>
<i>RMAM's</i>	<i>Required with metal fastener RM</i>	<i>Required with metal fastener RM</i>	<i>Required with metal fastener RM</i>	<i>Not applicable</i>