



## Press Contact

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## FOR IMMEDIATE RELEASE

### Practical Components Offers Dummy Amkor TMV® PoP (Package on Package)

**LOS ALAMITOS, CA — December 2010** — Practical Components Inc., a leading international supplier of solder training kits and materials, mechanical IC samples or “dummy” components and SMD production tools and equipment, announces the availability of a dummy version of the Amkor® TMV® PoP package on package (PSvfBGA).

According to Practical Components’ President Kevin Laphen, “Practical is committed to ensuring that electronics assembly engineers and technicians have access to the latest in high-technology components. This innovative component is the next step in package design and everyone who wants to grow their business and qualify their process needs to be familiar with this groundbreaking technology.”

After the success of the Amkor® double and triple stack PoPs, Amkor has added a new TMV® PSvfBGA that supports single die, stacked die using wirebond or hybrid (flip chip + wirebond) stacks and has been applied for flip chip applications to improve warpage control and package integrity through test and SMT handling.

The Amkor TMV® technology provides several key benefits:

- Enables scaling of the PoP stacked interface to 0.4 mm pitch in support of emerging high-density memory architectures.
- Allows for larger silicon area within an existing package footprint, benefiting both system architects and IC designers.
- Supports flip chip, wirebond, stacked die and passive integration within the bottom package for increased integration and design flexibility.
- Provides for reduced package warpage enabling thinner PoP stacks and improved surface mount assembly for high-density fine-pitch applications.



PoP packages provide a platform to cost effectively expand options for logic and memory 3-D integration.

The Practical Dummy Component® version of the TMV® is identical to the live package without the expensive die inside. The dummy versions are made of the same materials on the same manufacturing lines and have the same size, thermal and soldering properties as the live equivalent.

Practical Components® is the exclusive supplier of Amkor Technology Dummy Components. Amkor offers the industry's broadest array of package formats and sizes, from traditional, "off-the-shelf" leadframe configurations to leading-edge chip scale, flip chip and now TMV® PoP package on package (PSvFBGA). This allows Amkor to be a single source for many of Practical Components' customers' total IC packaging requirements.

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**About Practical Components®**

Since 1996, Practical Components has been the world's leading supplier of dummy components, which are the exact mechanical equivalents of live components, used when only the physical properties of the components are required. These components can cost as much as 80% less than live components, making them ideal for testing of solder processes, machine setup and other process evaluations. Practical Components is headquartered in Los Alamitos CA and has a worldwide distribution network. For more information, visit [www.practicalcomponents.com](http://www.practicalcomponents.com).

**About Amkor Technology®**

Amkor Technology, Inc. (Nasdaq: AMKR) is a leading provider of semiconductor assembly and test services. The company offers semiconductor companies and electronics OEMs a complete set of microelectronic design and manufacturing services. More information on Amkor is available from the company's SEC filings. Additional technical information on Amkor's PoP family including TMV™ packages can be found at [www.amkor.com](http://www.amkor.com).