ADVANCED MATERIALS

Microelectronic Packaging Materials
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The Challenge
To ensure optimal performance and reliability, sensitive electronics must be adequately protected by secure packaging. Hermetic lids are necessary for semiconductor, MEMS, medical or optical applications to shield devices from moisture. RF and microwave packages must meet the demand for very low thermal resistance and very low RF loss. Metals and alloys used for the joining of vacuum electronic devices must be free of contamination that could negatively impact performance.

The Solution
When it comes to packaging, we’ve got you covered! We offer a full range of products.
- Highly reliable hermetic lids for sealing and protection of delicate electronics
- Choice of best-solution materials from precious metal to epoxy-coated ceramic
- “Ultra clean” braze alloys for joints of high integrity and strength
- Innovative ceramic packages for very low thermal resistance and RF loss
- Choice of multiple designs & materials customized for specific applications

Benefits
We offer a comprehensive range of packaging materials with these advantages:
- Convenience of operations in N. America, Singapore and the Philippines
- Extensive tooling library with 5000+ stamped preforms & cover lids
- Support for most configurations, applications & volume requirements
- Specialized precious metal alloys to complement all solder applications
- Lead-free braze materials
- Gold & silver alloys providing excellent corrosion resistance
- Variety of alloys offering superior thermal & electrical conductivity
- Wide range of melting temperatures deliver consistent performance
- Support in selecting optical product or assistance fabricating new design
**LIDS**

We’ve got you covered – hermetic and non-hermetic lids for semiconductor, MEMS, medical or optical requirements:
- Combo-Lid™ Covers – pre-assembled solder preform and lid
- Micro-Lid™ Covers – for packages smaller than .300 in²
- Seam Seal-Lid™ Covers – for sealing heat sensitive electronics
- Solder Reflow-Lid™ Covers – cost alternative to Combo-Lid™ covers
- Visi-Lid™ Covers – for optical packages
- Epo-Lid™ Covers – Epoxy-coated ceramic for non-hermetic uses
- Ceramic Combo-Lid™ Covers – for specialty applications

**BRAZE & SOLDER ALLOYS**

Materials for microelectronic packaging & high temperature joining:
- AuSn Preforms
- Braze Materials
- SiSeal Materials
- Solder Alloys
- Lead-free Solders

**Characteristics**
- Customized shapes and forms, including ribbon, wire, preforms and powder
- Precious and non-precious metals and alloys
- Wide range of melting temperatures
- Superior conductivity

**CERAMIC PACKAGING**

RF & microwave packages for very low thermal resistance & RF loss. Complementary packages and lids:
- BeO Packages
- CuPacks™ Packages
- Epo-Lid™ Covers
- Air Cavity Packages
- Plated Flanges

**Characteristics**
- Dozens of open-tooled designs for best cost solutions
- Custom fabrication new designs
- Available in surface mount designs as well as bolt-down versions
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<td>Special Shaped Combo-Lid™ Covers</td>
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