PRODUCT DATA SHEET

Au-Based Precision Die-Attach Preforms

Introduction

Au-based alloys are a great choice to ensure the best performance and reliability possible for applications requiring a high-melting die-attach solder. In addition to meeting the demanding thermal and electrical requirements for high-reliability applications, they also provide the strongest corrosion- and oxidation-resistant solder joint possible. Semiconductor laser and RF power die-attach applications require the highest quality, ultra-precise solder preforms to ensure accuracy and repeatability during assembly for a guaranteed highly-reliable end product.

Indium Corporation's **Au-Based Precision Die-Attach Preforms (PDA Preforms)** offer the highest level of quality available to deliver the best performance possible in critical, high-reliability die-attach applications. PDA Preforms are built to stringent tolerances with very precise solder volumes, yielding excellent bondline thickness (BLT) control, solder bonding, and thermal transfer.

Features

- Highly accurate solder volume, and BLT control
- Precision edge quality
- Flat and free of warping or bends
- Optimized cleanliness control
- Default waffle-pack method

Available Alloys

Primary Alloys

- 80Au20Sn
- 79Au21Sn

Development Alloys

- 78Au22Sn
- 77Au23Sn
- 76Au24Sn
- 75Au25Sn
- 88Au12Ge
- 96.8Au3.2Si
- 82Au18In

Geometry

Guidelines for preform geometry can be derived from the die size. Generally, 90–100% of the die size will indicate the preform x and y dimensions. As for thickness, a thinner bondline is desirable, but not when reliability is sacrificed. The most critical attribute for die bonding application is flatness. Due to process constraints, fixturing can be difficult and time consuming. Allowing the die to float freely on the preform can be advantageous. If the preform is not flat, it can skew the die at reflow and fail. Processing is the key to preserving flatness.

Packaging

Packaging in waffle trays is the default pack method for the **Au-Based Precision Die-Attach Preforms**. Tape & reel is another similar pack method that can be used. Both of these methods are used for automated assembly and offer excellent protection for transit and storage. Die-attach preforms can come in many sizes, so flexibility in design is important. We have an extensive library of trays and tape available.

Summary

Indium Corporation's **Au-Based Precision Die-Attach Preforms** are an excellent choice for die-attach applications to ensure good performance and reliability. The correct preform characteristics and packaging ensure repeatable success in a production process. Each application has its own set of parameters; designing a preform and its packaging to meet those requirements is essential.

Technical Support

Indium Corporation's internationally experienced engineers provide in depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Materials Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder preforms, wire, ribbon, and paste. Indium Corporation's Technical Support Engineers provide rapid response to all technical inquiries.

Safety Data Sheets

Please refer to the SDS document within the product shipment, or contact our local team to receive a copy.

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified.
Indium Corporation is an ISO 9001:2015 registered company.

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Contact our engineers: askus@indium.com
Learn more: www.indium.com

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ASIA +65 6268 8678 • CHINA +86 (0) 512 628 34900 • EUROPE +44 (0) 1908 580400 • USA +1 315 853 4900

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