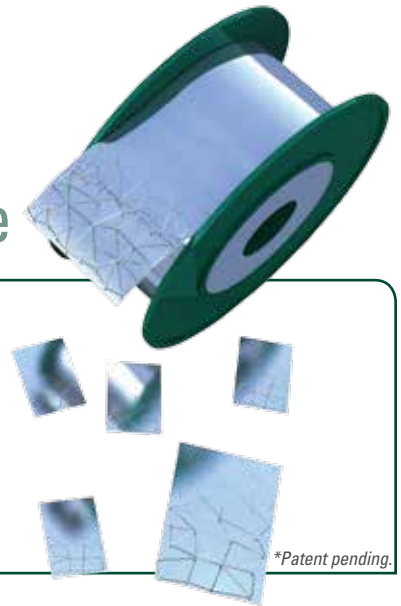


PRODUCT DATA SHEET

InFORMS®

Reinforced Matrixed Solder Composite



Introduction

InFORMS® are reinforced matrixed solder composites. This process produces a reinforced solder fabrication with improved strength and creates a more consistent bondline thickness. A uniform bondline maximizes the thermal and mechanical reliability in the solder joint, therefore producing solder joints that are higher in reliability.

InFORMS® can be manufactured into a wide variety of shapes, including rectangles, discs, and custom shapes to suit specific application requirements. InFORMS® are also available in ribbon* form for automated assembly.

*Patent pending.

Product Advantages

InFORMS® offer dramatically improved handling when compared to conventional solder alloy or indium sheet, foil, ribbon, or large preform materials. InFORMS® also offer increased tensile and compressive strength via the substrate materials while retaining the unique attributes of the outer layer metal (e.g., the softness, ductility, and other advantages of indium).

Applications

InFORMS® provide engineers with an enhanced material for the development of new, or the improvement of existing, applications. They can be used in applications in which there is a significant CTE mismatch between materials or where there is a high thermal and mechanical demand. An example of one such application is in the manufacture of IGBT modules when bonding the DBC to the base plate. InFORMS® can be manufactured in a wide variety of alloys that can be tailored to specific product requirements.

Dimensional Specifications

InFORMS® can be manufactured to meet most standard preform configurations. The geometrical tolerances are not affected by the composite within the solder. The table below lists the standard configurations offered.

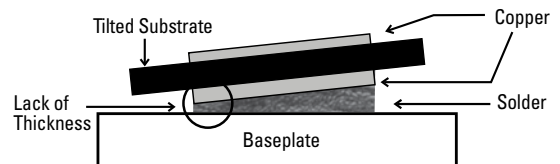
Standard Configurations

Solder Preform Requirements			
Description	Standoff (Microns)	Part Dimensions (x and y) (Millimeters)	Part Dimensions (z) (Microns)
LM04	100	>10 per side	>150
LM06	150	>10 per side	>200
LM08	200	>10 per side	>250
SM04	100	2.5–10 per side	>150
ESM03	75	.75–2.5 per side	>125

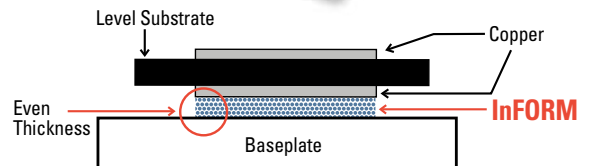
*Patent pending.

Challenge

Uneven solder bondline thickness between the substrate and baseplate of an IGBT module causes stress concentration at the thinner sections as shown here:



Solution InFORMS®



Summary

InFORMS® are solder preforms or ribbon* with a reinforcing matrix that improves the strength of the solder material and provides dependable standoff heights. This combination of benefits imparts the reliability and performance in many electrical components.

Safety Data Sheets

The SDS for this product can be found online at <http://www.indium.com/sds>

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