

# ALPHA<sup>®</sup> TRUEHEIGHT<sup>®</sup> PREFORMS

## Bondline Thickness and Tilt Control

### DESCRIPTION

**ALPHA TrueHeight Preforms** are solder preforms designed to deliver consistent bondline thickness (BLT) and minimize die tilt resulting in predictable reliability and performance. Engineers can be confident of achieving their design goals during manufacturing. **ALPHA TrueHeight Preforms** are engineered with simplicity in mind to allow ease of implementation and maximum soldering performance. Engineered embedded spacer technology can address all major applications requiring 75µm bondline and above. In addition, **ALPHA TrueHeight Preforms** can be tailored in different sizes, shapes and thickness.

**ALPHA TrueHeight Preforms** have the advantage of flexible spacer positioning. Strategic locations can be chosen to ensure consistent bondline thickness. The architecture of the design not only addresses the BLT requirement but also reduces the opportunity for voiding. The design minimizes areas where gases can be trapped compared to other technologies, during the reflow process. **ALPHA TrueHeight Preforms** can be flux coated as well, from a wide selection of fluxes.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

#### Features

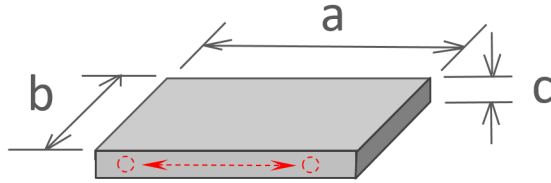
- BLT control of 0.075mm and higher standard
- Prevents bondline tilt
- Various preform sizes, shapes and thicknesses available
- Preforms available in all standard solder and 4N purity alloys
- External flux coatings available for traditional and low voiding applications using non-tacky flux formulations
- Excellent electrical reliability performance to IPC J-STD-004B
- Variety of packaging configurations available to suit your assembly application

#### Benefits

- Bondline thickness control and low die tilt
- Improved control of overall Package thickness
- Improved thermal reliability
- Flexibility to tailor the ALPHA TrueHeight Preforms design for specific applications

- Simplicity of design offers best-in-class overall performance
- Consistent BLT offers efficiencies during post processing operations including better X-ray inspection

**PRODUCT INFORMATION**



\* flexible bondline control at strategic location/s

Legend

a = length (1.2 to 58mm)  
 b = width (1.0 to 58mm)  
 c = thickness

Tolerance

±0.05mm  
 ±0.05mm  
 ±10%

Bondline thickness available from 0.075mm

**TECHNICAL DATA**

Standard	Alloy Designation		Solidus / Liquidus, °C
J-STD-006B	Pb-free	SAC305 / 387 / 357 / 405	217 to 221
	High Reliability	Innot / PowerBond	206 to 218 / 225 to 255
	SnPb	Sn2Pb95.5Ag2.5	299 to 304
	SnSb5	Sn95Sb5	234 to 240
	SnSb10	Sn90Sb10	240 to 250
Proprietary	Low Silver	SACX Plus 0307	217 to 228
* Also available in other or special alloys upon request			

ALPHA TrueHeight Preforms flux coated preforms are available in various coating levels, appropriate for specific application requirements. Special flux coating requirements can also be considered. Refer to ALPHA AccuFlux® and Alpha standard External Flux technical bulletins for more information.

Flux Reliability Data (J-STD-004-B)				
Test	Standard	Method	Conditions	Result
SIR Surface Insulation Resistance	IPC-TM-650	2.6.3.3	85 °C / 85% RH - 7 days	PASS
SIR Surface Insulation Resistance	IPC-TM-650	2.6.3.7	40 °C / 90% RH - 7 days	PASS
ECM Electrical Chemical Migration	IPC-TM-650	2.6.14.1	65 °C & 85 °C / 85% RH – 500hrs	PASS
Copper Corrosion	IPC-TM-650	9 days	40 °C / 93% RH	PASS
Copper Mirror	IPC-TM-650	2.6.3.7	25 °C / 50% RH – 24hrs	PASS

**RECYCLING SERVICES**

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities.



**SAFETY & WARNING**

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

**STORAGE**

The parts are packaged in ESD safe reels. Storage in a nitrogen cabinet is recommended after opening. When properly stored a shelf life of 6 months from date of manufacture is guaranteed.

**CONTACT INFORMATION**

[www.macdermidalpha.com](http://www.macdermidalpha.com)

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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