

ALPHA[®] EXACTALLOY[®] PREFORMS

Tape and Reel Packaging; Rectangles - Use with Solder Paste

DESCRIPTION

ALPHA Exactalloy Preforms in tape and reel packaging provide an easy to implement method for controlling or increasing solder volume. Tape and reel preforms are specifically targeted at electronic assembly applications. These solder rectangles do not contain flux but rely on flux paste dispensed during the assembly process; or in the case of PCB assembly rely on flux present in solder paste to support reflow. Solder rectangles in tape and reel packaging are placed with standard pick and place equipment. The wide selection of sizes provides maximum flexibility and cost effectiveness, since a single preform can usually be chosen to provide exactly the solder volume needed.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

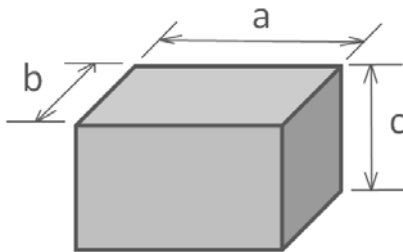
Features

- Rectangles available in chip capacitor sizes including: 0603, 0402, 0201 and many others
- Do not contain flux, but rely on the flux from solder paste or paste flux for reflow
- Wide alloy flexibility, including common lead free and lead containing alloys used in PCB assembly
- Fast placement utilizing standard equipment
- IEC 60286 Tape and Reel Packaging
- Low Temperature Alloy – Sn42Bi57.6Ag0.4

Benefits

- Precisely defines solder volume
- Ideal for pin in hole applications – and the elimination of wave soldering
- Reduces flux residues and solder spatter by reducing flux-solder ratio of standard solder paste
- Eliminate the use of step stencils
- Compatible with standard library pick and place routines
- Compatible with standard nozzle sizes
- Preforms available in all standard solder paste alloys

PRODUCT INFORMATION



Legend

a = length

b = width

c = thickness

S = Symmetrical

H = "Half-height"

B = Customized

Tolerance (mm)	a	b	c	x
Regular	± 0.05	± 0.05	± 10%	
Symmetrical (S)	± 0.03	± 0.01	± 0.01	
Customized (B)	± 0.03	± 0.03	± 0.03	

Size		Dimensions			Volume	Dimensions			Volume	Pb-Free	Sn-Pb	SnBiAg
		a	b	c		a	b	c				
inch	mm	mm			mm ³	mil			mil ³			
0201	0503	0.47	0.28	0.28	0.037	19	11	11	2,249	✓	✓	✓
0202	0505	0.51	0.51	0.25	0.065	20	20	10	3,968	✓	✓	
03015S	06035	0.60	0.35	0.35	0.074	24	14	14	4,485	✓		
0402H	1006H	1.00	0.60	0.25	0.125	39	24	10	9,154	✓	✓	✓
0402	1005	1.00	0.50	0.50	0.250	39	20	20	15,256	✓	✓	✓
0402B	10055	1.00	0.55	0.55	0.303	39	22	22	18,460	✓	*	*
0603H	1608H	1.60	0.80	0.50	0.640	63	31	20	39,055	✓	✓	✓
0603	1608	1.60	0.80	0.80	1.024	63	31	31	62,488	✓	✓	✓
0805H	2013H	2.01	1.30	0.40	1.045	79	51	16	63,782	✓	✓	✓
0805	2013	2.01	1.30	0.76	1.986	79	51	30	121,186	✓	✓	✓
0805S	2013S	2.01	1.30	1.30	3.397	79	51	51	207,292	✓	✓	*
1406	3515	3.56	1.52	0.77	4.167	140	60	30	254,263	✓	✓	*

* Production will depend on market demand, please check with your local sales representative for availability.

APPLICATION GUIDELINES

ALPHA Exactalloy Tape and Reel Preforms Rectangles, when placed in solder paste or paste flux, precisely control solder volume. They can be used in a variety of electronic assembly applications including, increasing solder volume on both PCB pads and plated through holes.

Only a portion of the preform needs to be in contact with the solder paste, providing significant implementation flexibility. Lead free preforms should contact the solder paste with at least 25% of the preform. Lead containing parts should contact the solder paste with at least 10% of the preform.

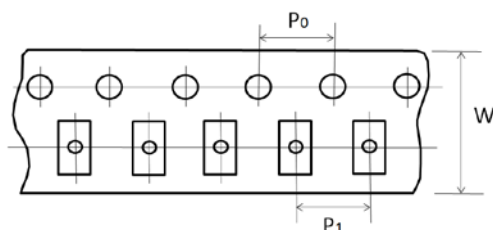
As a quick reference, the preform can be up to **4 times** the volume of the solder paste without diluting the flux excessively in AIR reflow or a stretch up to **10 times** under N2 reflow environment.

TECHNICAL DATA

Standard	Alloy Designation		Melting or Solidus / Liquidus Temp °C
J-STD-006B	Pb-free	SAC305 / 387 / 357 / 405	217 to 221
	Low-temp	Sn42Bi57.6Ag0.4	138 / 139
	High-Reliability	InnoLot	206 to 218
	Sn-Pb	Sn63Pb37 / Sn62Pb36Ag2	179 to 183
Proprietary	Low Silver	SACX Plus 0307	217 to 228

* Also available in other or special alloys on request.

Packaging (IEC-60286-x)			
Carrier Tape Width			8mm
Pitch	P0		4mm
	P1	≤ 0402	2mm
		≥ 0402	4mm
Reel Size			7" & 13"



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 at AlphaAssembly.com**

STORAGE

The parts are packaged in ESD safe reels. When properly stored (ambient temperatures and dry), the warranty period is 2 years.

CONTACT INFORMATION

**To confirm this document is the most recent version, please contact
Assembly@MacDermidAlpha.com**

www.macdermidalpha.com

North America 300 Atrium Drive Somerset, NJ 08873, USA 800.367.5460	Europe Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 01483.758400	Asia 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100
---	--	--

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

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "(R)" and "TM" are registered trademarks or trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.