

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 increasing solder volume specifically targeted for use with solder paste and assembly applications. **These solder rectangles do not contain flux, but rely on the excess flux present in solder paste to support reflow.** Solder rectangles are inserted into solder paste to precisely increase solder volume. The entire family of solder rectangles in tape and reel packaging are placed with standard equipment, utilizing industry standard pick and place routines. The wide selection of progressive solder volumes provides maximum flexibility and cost effectiveness, since a single preform can usually be chosen to provide exactly the added solder volume needed.

FEATURES & BENEFITS

Features

- ✓ Rectangles 1406, 0805S, 0805, 0603, 0603H, 0402, 0402B, 0402H, 03015, 0202, 0201 sizes, as well as many others, for use with solder paste.
- ✓ Do not contain flux, but rely on the excess flux in solder paste for reflow.
- ✓ Wide alloy flexibility, including common lead free and lead containing alloys used in PCB assembly
- ✓ Half height devices available – 0402H, 0603H – ideal for placement under low standoff connectors
- ✓ Fast placement utilizing standard equipment
- ✓ 7" and 13" standard IEC reels available

Benefits

- ✓ Accelerates time to market by solving solder insufficiency issues without PCB layout changes
- ✓ Precisely increase solder volume in paste applications
- ✓ Ideal for pin in hole applications – and the elimination of wave soldering
- ✓ Reduces flux residues by reducing flux-solder ratio of standard solder paste
- ✓ Reduces flux spattering and mid chip solder balls by eliminating the need for overprinting 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

APPLICATION

Exactalloy™ tape and reel preforms, when placed in solder paste, precisely increase solder volume. 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 four times the volume of the solder paste*** without diluting the flux excessively.

For applications that require a large preform inserted into a small paste deposit, use Ultra-Core™ flux core preforms. Please contact your Cookson representative for more information about flux core preforms. A separate Technical Bulletin is available.

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Item # Listings SAC305 and Sn63Pb37 alloys

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Cookson Electronics ASSEMBLY MATERIALS

ALPHA® EXACTALLOY™ PREFORMS TAPE AND REEL PACKAGING / FOR USE WITH SOLDER PASTE

PACKAGING AND STORAGE

The parts are packaged in ESD safe reels. When properly stored (ambient Temperatures and dry) a shelf life of 2 years to guaranteed. For packaging details see table below.

SAFETY

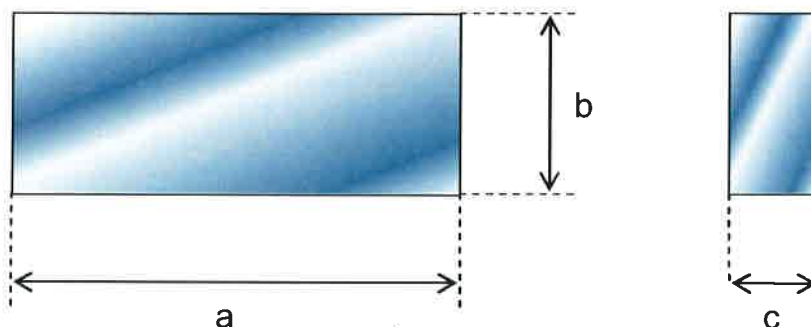
Consult the MSDS for additional safety information, and for toxicity data on alloys containing lead and silver.

TAPE & REEL - RIBBON PACKAGING INFORMATION

Ribbon Width: 8 mm
Pitch: 4 mm, 2mm
Volume: see below
Reel Sizes: 7", 13"

PREFORM DIMENSIONS

Standard Rectangular Product Types



Part type inch	Part type mm	Part dimensions						Volume	
		a		b		c			
		mm	inch	mm	inch	mm	inch	mm³	inch³
0201	0502	0.51	0.02	0.25	0.01	0.25	0.01	0.03	0.000002
0202	0505	0.51	0.02	0.51	0.02	0.25	0.01	0.06	0.000004
3015	0704	0.76	0.03	0.38	0.015	0.25	0.01	0.07	0.000004
0402H	1060H	1.00	0.039	0.60	0.02	0.25	0.01	0.15	0.000009
0402	1050	1.00	0.039	0.50	0.02	0.50	0.02	0.25	0.000015
0402B	1055	1.00	0.039	0.55	0.022	0.55	0.022	0.30	0.000018
0603H	1608H	1.60	0.063	0.80	0.031	0.50	0.02	0.64	0.000039
0603	1608	1.60	0.063	0.80	0.031	0.80	0.031	1.02	0.000061
0805	2013	2.01	0.079	1.30	0.051	0.76	0.028	1.98	0.000113
0805S	2013	2.01	0.079	1.30	0.051	1.30	0.051	3.38	0.000205
1406	3515	3.56	0.14	1.52	0.06	0.77	0.03	4.17	0.000254

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Tolerances on the part dimensions: $\pm 0.05\text{mm}$ for a and b, $\pm 10\%$ for c
Please review additional information available in this document for other dimensions currently available.

ALLOY INFORMATION

Alloy (1)	Sn	Ag	Cu	Pb	Melt T	Density g/cm ³
Lead free						
SAC305	96.5%	3%	0.5%	(2)	217-219°C	7.38
SAC405	95.5%	4%	0.5%	(2)	217-218°C	7.41
SAC387	96.5%	3.8%	0.7%	(2)	217°C	7.40
SAC357	95.8%	3.5%	0.7%	(2)	217°C	7.40
SACX0307	99%	0.3%	0.7%	(2)	219-229°C	7.33
Sn96.5Ag3.5	96.5%	3.5%	-	(2)	217°C	7.39
Lead containing						
Sn63Pb37	63%	-	-	37%	183°C	8.41
Sn62Pb36Ag2	62%	2%	-	36%	179-182°C	8.43

(1) Other alloys available on request

ITEM NUMBER LISTING

Part type	7" Reel Item Numbers	
	SAC305	Sn63Pb37
0201	59171	59337
0202	58895	59347
3015	59258	59348
0402H	58336	58922
0402	59128	54455
0603H	59272	51889
0603	55195	44768
0805	59250	39047
0805S	157820	157815
1406	53980	52594

Please contact your Cookson representative for item numbers not listed above.

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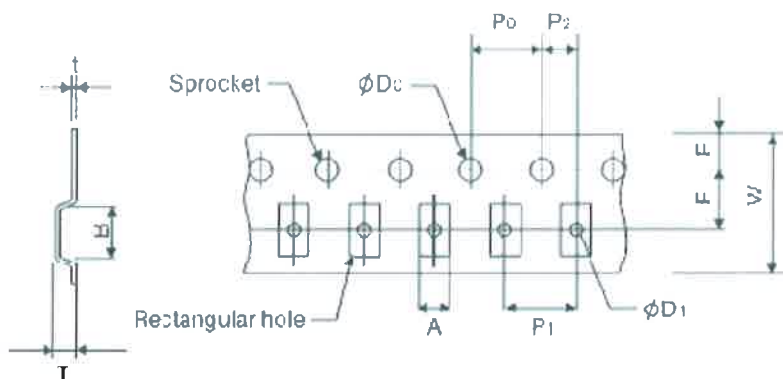


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TAPE and REEL PACKAGING INFORMATION



Packaging according to IEC60286-3

Part type	Tape Dimensions					
	W		P ₀		P ₁	
	mm	inch	mm	inch	mm	inch
0201	8	0.315	4	0.157	2	0.079
0202	8	0.315	4	0.157	2	0.079
03015	8	0.315	4	0.157	2	0.079
0402H	8	0.315	4	0.157	4	0.157
0402B	8	0.315	4	0.157	4	0.157
0402	8	0.315	4	0.157	4	0.157
0603H	8	0.315	4	0.157	4	0.157
0603	8	0.315	4	0.157	4	0.157
0805	8	0.315	4	0.157	4	0.157
0805S	8	0.315	4	0.157	4	0.157
1406	8	0.315	4	0.157	4	0.157

Part type	Packaging Quantity					
	020X / 03015	0402H	0402B / 0402	0603H	0603	0805 / 0805S / 1406
7" reel	10,000	5,000	5,000	4,000	4,000	3,000
13" reel	50,000	25,000	20,000	20,000	15,000	15,000

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