

ALPHA® EXACTALLOY™ PREFORMS

Tape and Reel packaging

DESCRIPTION

ALPHA Exactalloy™ Preforms in tape and reel provide an easy to implement method for increasing solder volume in paste applications. Solder rectangles are inserted into solder paste to precisely increase solder volume. Standard solder rectangles, such as 1206, 0805, 0603 and 0402 in tape and reel packaging are placed with standard equipment, utilizing the industry standard pick and place routines.

Stand alone applications that require a precise amount of solder, such as solder washers for through hole applications, can be quickly implemented in production by utilizing tape and reel packaging. The tape and reel packaging enables rapid assembly of preform solder volume, and enables portability of designs to any site with standard pick and place equipment.

FEATURES & BENEFITS

Features

- ✓ Rectangles 1206, 0805, 0603, 0402 sizes, as well as many others, for use with solder paste.
- ✓ Washers, Discs and larger rectangles also available
- ✓ Wide alloy flexibility, including common lead free and lead containing alloys used in PCB assembly
- ✓ Fast placement utilizing standard equipment
- ✓ 7" and 13" standard IEC reels available

Benefits

- ✓ Precisely increase solder volume in paste applications
- ✓ Precisely control solder volume in stand alone applications
- ✓ Compatible with standard library pick and place routines
- ✓ Compatible with standard nozzle sizes
- ✓ All standard solder paste alloys readily available
- ✓ Reduces flux spattering by eliminating the need for overprinting solder paste
- ✓ Reduces flux residues by reducing flux-solder ratio of standard solder paste

APPLICATION

Exactalloy™ tape and reel preforms, when placed in solder paste, provide a precise method to 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.

In order to ensure good wetting, the flux portion of the solder paste must not be diluted to less than 2.5% by weight. Under these circumstances, the reflow profile does not need to be adjusted. Should the total flux to solder ratio fall under 2-2.5% in weight, a fast ramp reflow profile should be considered, especially for Lead free alloys. This is recommended to ensure that the reduced flux present is not subjected to excessive heat during reflow.

For stand alone applications, flux can be added to the assembly prior to reflow, or in some cases, flux can be included with the preform, either as externally coated, or as a flux core, which is popular in washers.

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Rev. 8-15-07





ALPHA® EXACTALLOY™ PREFORMS TAPE AND REEL PACKAGING

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

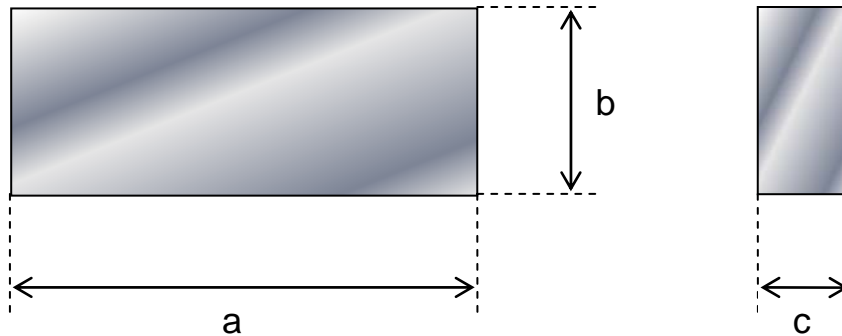
Consult the MSDS for additional safety information, and for toxicity data on alloys containing lead and silver.

TAPE & REEL - RIBBON PACKAGING INFORMATION

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

PREFORM DIMENSIONS

Standard Rectangular Product Types



Part type	Part dimensions						Volume	
	a		b		c			
	mm	inch	mm	inch	mm	inch	mm ³	inch ³
0402	1.00	0.039	0.50	0.020	0.50	0.020	0.25	0.000015
0403	1.01	0.040	0.76	0.030	0.30	0.012	0.23	0.000014
0603	1.60	0.063	0.80	0.031	0.80	0.031	1.02	0.000061
0805	2.01	0.079	1.30	0.051	0.76	0.028	1.98	0.000113
1206	3.56	0.140	1.52	0.060	0.77	0.030	4.17	0.000254

Tolerances on the part dimensions: ±0.05mm for a and b, ±10% for c

Please review additional information available in this document for other dimensions currently available.

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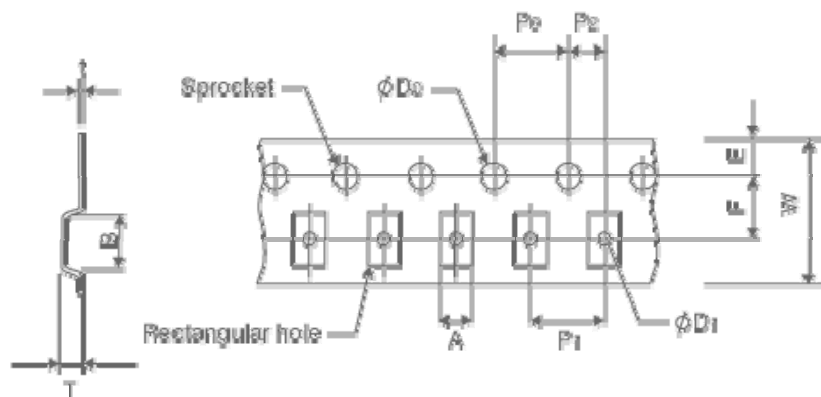
ALPHA® EXACTALLOY™ PREFORMS TAPE AND REEL PACKAGING

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
- (2) Less than the maximum allowable according to RoHS specification

TAPE and REEL PACKAGING INFORMATION



Packaging according to IEC60286-3

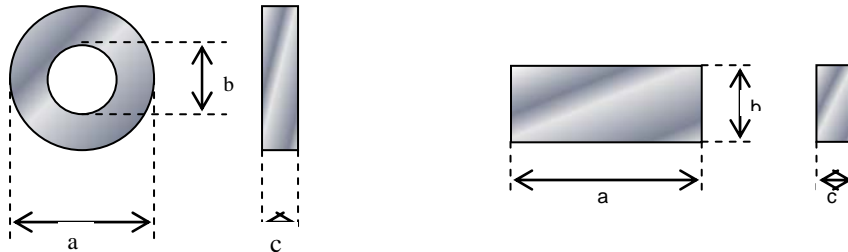
Part type	Pocket dimension						Other dimensions					
	A		B		T		W		P ₀		P ₁	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
0402	0.67	0.026	1.17	0.046	0.77	0.030	8	0.315	4	0.157	4	0.157
0403	0.80	0.031	1.35	0.053	0.40	0.016	8	0.315	4	0.157	4	0.157
0603	0.95	0.037	1.75	0.069	1.00	0.039	8	0.315	4	0.157	4	0.157
0805	1.65	0.065	2.45	0.096	1.00	0.039	8	0.315	4	0.157	4	0.157
1205	1.90	0.075	3.90	0.154	1.00	0.039	8	0.315	4	0.157	4	0.157
Packaging Quantity												
Part type	0402		0403		0603		0805		1205			
7" reel	5,000		5,000		4,000		3,000		3,000			
13" reel	25,000		25,000		15,000		15,000		15,000			

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**ALPHA® EXACTALLOY™ PREFORMS
TAPE AND REEL PACKAGING**

ADDITIONAL PREFORM SHAPES



Shape	Part type	Part dimensions						Volume	
		a		b		c		mm ³	inch ³
		mm	inch	mm	inch	mm	inch		
Washer	2009W	5.00	0.197	2.25	0.089	0.71	0.028	11.12	0.000678
Washer	1206W	3.06	0.120	1.47	0.058	1.20	0.047	6.79	0.000414
Washer	1106W	2.95	0.116	1.45	0.057	1.00	0.039	5.18	0.000316
Washer	0904W	2.30	0.091	1.00	0.039	1.00	0.039	3.37	0.000206
Washer	0905W2	2.20	0.087	1.20	0.047	1.00	0.039	2.67	0.000163
Washer	1307W	3.23	0.127	1.88	0.074	0.40	0.016	2.17	0.000132
Washer	0905W3	2.20	0.087	1.30	0.051	0.70	0.028	1.73	0.000106
Washer	1006W	2.54	0.100	1.63	0.064	0.50	0.020	1.49	0.000091
Washer	0704W	1.78	0.070	0.94	0.037	0.81	0.032	1.45	0.000089
Washer	0905W	2.16	0.085	1.37	0.054	0.50	0.020	1.10	0.000067
Washer	1008W	2.54	0.100	2.11	0.083	0.50	0.020	0.79	0.000048
Washer	0805W	1.90	0.075	1.27	0.050	0.40	0.016	0.63	0.000038
Washer	1008WT	2.54	0.100	2.11	0.083	0.30	0.012	0.47	0.000029
Rectangle	1205D	3.56	0.140	1.52	0.060	1.04	0.041	5.63	0.000343
Rectangle	2320	6.00	0.236	5.00	0.197	0.18	0.007	5.34	0.000326
Rectangle	1412	3.50	0.138	3.00	0.118	0.40	0.016	4.20	0.000256
Rectangle	0805D	2.01	0.079	1.30	0.051	1.40	0.055	3.66	0.000223
Rectangle	0804	2.01	0.079	0.99	0.039	0.99	0.039	1.97	0.000120
Rectangle	0603M	1.52	0.060	0.76	0.030	0.84	0.033	0.97	0.000059
Rectangle	0603H	1.60	0.063	0.80	0.031	0.50	0.020	0.64	0.000039
Rectangle	1007T	2.50	0.098	1.70	0.067	0.15	0.006	0.64	0.000039
Rectangle	0603T	1.60	0.063	0.80	0.031	0.18	0.007	0.23	0.000014
Rectangle	0603VT	1.60	0.063	0.80	0.031	0.06	0.002	0.08	0.000005
Disc	2000R	5.00	0.197	-	-	0.50	0.020	9.82	0.000599
Disc	1000R	2.50	0.098	-	-	1.00	0.039	4.91	0.000300
Disc	0800R	2.00	0.079	-	-	0.30	0.012	0.47	0.000058

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TAPE AND REEL PACKAGING INFORMATION - ADDITIONAL SHAPES

Part type	Pocket dimension						Other dimensions						Quantity/reel	
	A		B		T		W		P0		P1		7"	13"
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
2009W	5.30	0.209	5.30	0.209	1.00	0.039	12	0.472	4	0.157	8	0.315	1,400	7,000
1206W	3.25	0.128	3.25	0.128	1.80	0.071	12	0.472	4	0.157	8	0.315	1,100	4,000
1106W	3.10	0.122	3.10	0.122	1.00	0.039	8	0.315	4	0.157	8	0.315	3,000	15,000
0904W	2.50	0.098	2.50	0.098	1.40	0.055	12	0.472	4	0.157	4	0.157	1,500	5,000
0905W2	2.30	0.091	2.30	0.091	1.00	0.039	8	0.315	4	0.157	4	0.157	3,000	15,000
1307W	3.50	0.138	3.50	0.138	1.70	0.067	12	0.472	4	0.157	8	0.315	1,200	5,000
0905W3	2.30	0.091	2.30	0.091	1.00	0.039	8	0.315	4	0.157	4	0.157	3,000	15,000
1006W	3.10	0.122	3.10	0.122	1.00	0.039	8	0.315	4	0.157	8	0.315	3,000	14,000
0704W	2.10	0.083	2.10	0.083	1.00	0.039	8	0.315	4	0.157	4	0.157	4,000	17,000
0905W	2.30	0.091	2.30	0.091	1.00	0.039	8	0.315	4	0.157	4	0.157	3,000	14,000
1008W	3.10	0.122	3.10	0.122	1.00	0.039	8	0.315	4	0.157	8	0.315	4,000	14,000
0805W	2.30	0.091	2.30	0.091	1.00	0.039	8	0.315	4	0.157	4	0.157	3,000	14,000
1008WT	3.10	0.122	3.10	0.122	1.00	0.039	8	0.315	4	0.157	8	0.315	3,000	14,000
1205D	1.90	0.075	3.90	0.154	1.00	0.039	8	0.315	4	0.157	4	0.157	4,000	15,000
2320	5.45	0.215	6.15	0.242	1.30	0.051	12	0.472	4	0.157	8	0.315	1,600	6,500
1412	3.20	0.126	3.80	0.150	1.25	0.049	8	0.315	4	0.157	4	0.157	3,000	TBD
0805D	1.65	0.065	2.45	0.096	1.50	0.059	8	0.315	4	0.157	4	0.157	3,000	12,000
0804	1.65	0.065	2.45	0.096	1.00	0.039	8	0.315	4	0.157	4	0.157	4,000	15,000
0603M	0.95	0.037	1.75	0.069	1.00	0.039	8	0.315	4	0.157	4	0.157	4,000	15,000
0603H	0.95	0.037	1.75	0.069	1.00	0.039	8	0.315	4	0.157	4	0.157	4,000	15,000
1007T	2.20	0.087	2.70	0.106	0.90	0.035	8	0.315	4	0.157	4	0.157	4,000	15,000
0603T	0.95	0.037	1.75	0.069	0.25	0.010	8	0.315	4	0.157	4	0.157	7,000	25,000
0603VT	0.95	0.037	1.75	0.069	0.25	0.010	8	0.315	4	0.157	4	0.157	7,000	25,000
2000R	5.30	0.209	5.30	0.209	1.50	0.059	12	0.472	4	0.157	8	0.315	1,400	7,000
1000R	3.10	0.122	3.10	0.122	1.00	0.039	8	0.315	4	0.157	8	0.315	4,000	15,000
0800R	2.10	0.083	2.10	0.083	1.00	0.039	8	0.315	4	0.157	4	0.157	4,000	15,000

Notes:

D = disc; W = washer; R = rectangle

Other sizes and pocket design available on request

Please contact your sales office with requirements.

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