ALLIANCE MEMORY MDS REPORT

Part Number:	AS4C512M16D4D-62BCN / AS4C512M16D4D-62BIN						
Part Weight:	197.31mg						

No.	Part Name	Component wt (mg)	Material Content (Element)	CAS Number	Homogeneous materialt wt (%)	Element wt (mg)	wt % of Total unit wt
1	Core	29.25	Thermosetting resin (including filler)	Trade Secret	50.000%	14.625	7.4122%
			Glass cloth	65997-17-3	50.000%	14.625	7.4122%
2	Copper foil	4.84	Copper foil	7440-50-8	100.000%	4.840	2.4530%
3	Solder mask	4.77	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	1.800%	0.086	0.0435%
			Naphtha (petroleum), heavy aromatic	64742-94-5	1.800%	0.086	0.0435%
			TALC (CONTAINING NO ASBESTOS FIBRES)	14807-96-6	1.800%	0.086	0.0435%
			1,3,5-Triazine-2,4,6-triamine	108-78-1	0.500%	0.024	0.0121%
			Naphthalene	91-20-3	0.200%	0.010	0.0048%
			Other components below reportable levels	Trade Secret	33.900%	1.617	0.8195%
			FORMALDEHYDE, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE AND PHENOL	9003-36-5	10.000%	0.477	0.2418%
			2-[[3-[(1-Oxoallyl)oxy]-2,2-bis[[(1-oxoallyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyldiacrylate	29570-58-9	5.000%	0.239	0.1209%
			2-[[3-Hydroxy-2,2-bis[[(1-oxoallyl)oxy]methyl]propoxy]methyl]-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyldiacrylate	60506-81-2	2.600%	0.124	0.0629%
			Other components below reportable levels	Trade Secret	42.400%	2.022	1.0250%
4	Ni plating	1.400	Nickel	7440-02-0	100.000%	1.400	0.7095%
5	Au plating	0.170	Gold	7440-57-5	100.000%	0.170	0.0862%
6	Cu plating	7.250	Copper	7440-50-8	100.000%	7.250	3.6744%
7	Mold compound	95.214	Epoxy resin	Trade Secret	7.000%	6.665	3.3779%
			Hardener	Trade Secret	7.000%	6.665	3.3779%
			Metal hydroxide	Trade Secret	15.600%	14.853	7.5279%
			Carbon black	1333-86-4	0.400%	0.381	0.1930%
			Amorphous silica	60676-86-0	70.000%	66.650	33.7792%
8	Die Adhesive	1.779	Silicon Dioxide	112926-008	19.000%	0.338	0.1713%
			2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	28.500%	0.507	0.2570%
			Butadiene, acrylonitrile polymer, carboxy-terminated, polymer with bisphenol A and epichlorohydrin	68610-41-3	23.800%	0.423	0.2146%
			Silica Filler	112926-00-8	19.000%	0.338	0.1713%
			Silane, dichlorodimethyl-, reaction products with silica	68611-44-9	9.500%	0.169	0.0857%
			tert-butyl peroxyneodecanoate	26748-41-4	0.101%	0.002	0.0009%
			4,4'-Isopropylidenediphenol	80-05-7	0.099%	0.002	0.0009%
9	Solder ball	33.741	Tin	7440-31-5	96.800%	32.661	16.5533%
			Silver	7440-22-4	3.000%	1.012	0.5130%
			Copper	7440-50-8	0.200%	0.067	0.0342%
10	Gold wire	0.391	Gold	7440-57-5	99.000%	0.387	0.1962%
			Palladium	7440-05-3	0.998%	0.004	0.0020%
			Calcium	7440-70-2	0.002%	0.000	0.0000%
11	Die	18.505	Silicon	7440-21-3	99.682%	18.446	9.3488%
			Aluminum	7429-90-5	0.149%	0.028	0.0140%
			Tungston	7440-33-7	0.106%	0.020	0.0099%
			Titanium	7440-32-6	0.042%	0.008	0.0039%
			Boron	7440-42-8	0.006%	0.001	0.0006%
			Arsenic	7440-38-2	0.003%	0.001	0.0003%
			Phosphorous	7723-14-0	0.004%	0.001	0.0004%
			Copper	7440-50-8	0.005%	0.001	0.0005%
			Fluorine	7782-41-4	0.003%	0.001	0.0003%
						197.31	100.0000%

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Fax: 425-896-8628 Alliance Memory Inc. reserves the right to change products or specification without notice