



ALLIANCE MEMORY MDS REPORT

Part Number:		AS4C64M16D3LC-12BCN / AS4C64M16D3LC-12BIN								
Part Weight:		165.97mg								
No.	Part Name	Material Name	Component wt (mg)	Material Content (Element)	CAS Number	Element wt (%)	Element wt (mg)	wt % of Total unit wt	PPM	
1	Substrate	HL-832NX-A / AUS 308	35.66	Thermosetting resin (including filler)	Trade Secret	27.20%	9.750	5.87%	272000	
				Glass cloth	65997-17-3	27.20%	9.750	5.87%	272000	
				Talc containing no asbestiform fibers	14807-96-6	0.38%	0.137	0.08%	3824	
				Morpholine derivative	Trade secret	0.38%	0.137	0.08%	3824	
				Barium sulfate	7727-43-7	4.21%	1.508	0.91%	42064	
				Silica, amorphous	7631-86-9	0.10%	0.034	0.02%	956	
				Dipropylene glycol monomethyl ether	34590-94-8	2.29%	0.822	0.50%	22944	
				Naphthalene	91-20-3	0.10%	0.034	0.02%	956	
				Epoxy resin A	Trade secret	1.24%	0.445	0.27%	12428	
				Epoxy resin B	85954-11-6	0.86%	0.308	0.19%	8604	
				Copper	7440-50-8	9.54%	3.420	2.06%	95400	
				Copper	7440-50-8	22.26%	7.979	4.81%	222600	
				Nickel	7440-02-0	3.72%	1.333	0.80%	37200	
2	Mold compound	CEL-9120HF	87.875	Gold	7440-57-5	0.52%	0.186	0.11%	5200	
				Epoxy resin	Trade Secret	5.00%	4.384	2.64%	50000	
				2,2'-((2,2',5,5'-tetramethy-(1,1'-biphenyl)-4,4'-diyl)-bis(oxymethylene))-bis-oxirane	Trade Secret	5.00%	4.384	2.64%	50000	
				Hardener	Trade Secret	5.00%	4.384	2.64%	50000	
				Carbon Black	1333-86-4	0.20%	0.175	0.11%	2000	
				Amorphous Silica 1	60676-86-0	80.80%	70.853	42.69%	808000	
				Amorphous Silica 2	7631-86-9	4.00%	3.508	2.11%	40000	
3	Epoxy	6202C	0.733	2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	36.50%	0.268	0.16%	365000	
				Butadiene, acrylonitrile polymer, carboxy-terminated, polymer with bisphenol A and epichlorohydrin	68610-41-3	28.00%	0.205	0.12%	280000	
				Isodecyl alcohol, ethoxylated	61827-42-7	10.00%	0.073	0.04%	100000	
				Silica Filler	112926-00-8	25.00%	0.183	0.11%	250000	
				Tert-butyl peroxyneodecanoate	26748-41-4	0.50%	0.004	0.00%	5000	
4	Solder ball	SnAgCu	33.878	Tin	7440-31-5	96.50%	32.692	19.70%	965000	
				Silver	7440-22-4	3.00%	1.016	0.61%	30000	
				Copper	7440-50-8	0.50%	0.169	0.10%	5000	
5	Gold wire	Au	0.202	Gold	7440-57-5	99.99%	0.202	0.12%	999900	
				Others	Trade Secret	0.01%	0.000	0.00%	100	
6	Die	Chip	7.622	Silicon	7440-21-3	100.00%	7.622	4.59%	1000000	
				165.97			600.00%	165.970	100.00%	6000000