



# ALLIANCE MEMORY MDS REPORT

Part Number:		AS4C64M16D3A-12BCN / AS4C64M16D3A-12BIN / AS4C64M16D3A-12BAN							
Part Weight:		174.63mg							
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	NPG-200 / AUS 308	ASE	E-Glass Fabric	65997-17-3	20.21%	8.7755	5.03%	202125
				Epoxy Resin	29690-82-2	20.21%	8.7755	5.03%	202125
				Fillers	21645-51-2	6.74%	2.9252	1.68%	67375
				DOPO	35948-25-5	6.74%	2.9252	1.68%	67375
				Talc containing no asbestiform fibers	14807-96-6	0.37%	0.1587	0.09%	3656
				Morpholine derivative	Trade secret	0.37%	0.1587	0.09%	3656
				Barium sulfate	7727-43-7	4.02%	1.7460	1.00%	40216
				Silica, amorphous	7631-86-9	0.09%	0.0397	0.02%	914
				Dipropylene glycol monomethyl ether	34590-94-8	2.19%	0.9524	0.55%	21936
				Naphthalene	91-20-3	0.09%	0.0397	0.02%	914
				Epoxy resin A	Trade secret	1.19%	0.5159	0.30%	11882
				Epoxy resin B	85954-11-6	0.82%	0.3571	0.20%	8226
				Copper	7440-50-8	31.00%	13.4590	7.71%	310000
				Nickel	7440-02-0	4.69%	2.0362	1.17%	46900
2	Mold compound	CEL-9120HF	Hitachi	Gold	7440-57-5	1.27%	0.5514	0.32%	12700
				Epoxy resin	Trade Secret	4.00%	3.4615	1.98%	40000
				Hardener	Trade secret	4.00%	3.4615	1.98%	40000
				Carbon Black	1333-86-4	0.20%	0.1731	0.10%	2000
				Amorphous silica	60676-86-0	89.80%	77.7117	44.50%	898000
3	Epoxy	6202C	Henkel	Crystalline silica	14808-60-7	2.00%	1.7308	0.99%	20000
				2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	30.00%	0.2774	0.16%	300000
				Modified Epoxy Resin	Trade secret	30.00%	0.2774	0.16%	300000
				Isodecyl alcohol,ethoxylated	Trade secret	10.00%	0.0925	0.05%	100000
4	Solder ball	M705	Senju	others	Trade secret	30.00%	0.2774	0.16%	300000
				Tin	7440-31-5	96.50%	32.6924	18.72%	965000
				Silver	7440-22-4	3.00%	1.0163	0.58%	30000
5	Gold wire	Au	Tanaka	Copper	7440-50-8	0.50%	0.1694	0.10%	5000
				Gold	7440-57-5	99.99%	0.2540	0.15%	999900
6	Die	Chip	Powerchip	Others	Trade Secret	0.01%	0.0000	0.00%	100
				Silicon	7440-21-3	100.00%	9.6186	5.51%	1000000
						600.00%	174.630	100.00%	6000000