



ALLIANCE MEMORY MDS REPORT

Part Number:		AS4C512M8D3LA-12BCN / AS4C512M8D3LA-12BIN / AS4C512M8D3LA-12BAN								
Part Weight:		151.32mg								
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 / AUS 308	35.908	E-Glass Fabric	65997-17-3	19.43%	6.976	4.61%	194258.7264	
				Epoxy Resin	29690-82-2	19.43%	6.976	4.61%	194258.7264	
				Fillers	21645-51-2	6.48%	2.325	1.54%	64752.9088	
				DOPO	35948-25-5	9.71%	3.488	2.30%	97129.6384	
				Talc containing no asbestiform fibers	14807-96-6	0.39%	0.141	0.09%	3928	
				Morpholine derivative	Trade secret	0.39%	0.141	0.09%	3928	
				Barium sulfate	7727-43-7	4.42%	1.587	1.05%	44190	
				Silica, amorphous	7631-86-9	0.10%	0.035	0.02%	982	
				Dipropylene glycol monomethyl ether	34590-94-8	2.36%	0.846	0.56%	23568	
				Epoxy resin A	Trade secret	1.28%	0.458	0.30%	12766	
				Epoxy resin B	85954-11-6	0.88%	0.317	0.21%	8838	
				Copper	7440-50-8	31.37%	11.264	7.44%	313700	
				Nickel	7440-02-0	2.97%	1.066	0.70%	29700	
Gold	7440-57-5	0.80%	0.287	0.19%	8000					
2	Mold compound	CEL-9120HF	55.462	Epoxy Resin	Trade secret	4.00%	2.218	1.47%	40000	
				Hardener	Trade secret	3.00%	1.664	1.10%	30000	
				Metal hydroxide	Trade secret	4.50%	2.496	1.65%	45000	
				Carbon black	1333-86-4	0.20%	0.111	0.07%	2000	
				Amorphous silica	60676-86-0	83.30%	46.200	30.53%	833000	
				Crystal silica	14808-60-7	5.00%	2.773	1.83%	50000	
3	Epoxy	6202C	2.827	Diethylene glycol monoethyl ether acetate	112-15-2	35.00%	0.989	0.65%	350000	
				Rubber modified epoxy	Trade secret	35.00%	0.989	0.65%	350000	
				Carbamate resin	Trade secret	5.00%	0.141	0.09%	50000	
				Bismaleimide resin	Trade secret	5.00%	0.141	0.09%	50000	
				Others	Trade secret	20.00%	0.565	0.37%	200000	
4	Solder ball	M705	27.526	Tin	7440-31-5	96.50%	26.563	17.55%	965000	
				Silver	7440-22-4	3.00%	0.826	0.55%	30000	
				Copper	7440-50-8	0.50%	0.138	0.09%	5000	
5	Gold wire	Au	0.192	Gold	7440-57-5	99.99%	0.192	0.13%	999900	
				Others	Trade Secret	0.01%	0.000	0.00%	100	
6	Die	Chip	29.405	Silicon	7440-21-3	100.00%	29.405	19.43%	1000000	
			151.32				600.00%	151.320	100.00%	600000