ALLIANCE MEMORY MDS REPORT

Item	Material Type	Material Vendor	Material Model	Substance Name	Purpose	CAS No.	Weight (mg)	Homogeneous Material Level Percentage (%)	Homogeneous Material Level PPM (mg/kg)	Product Level Percentage (%)	Product Level PPM (mg/kg)
Part Number:				AS9F18G08SA-45BIN							
Part Weight:				142.00035mg							
1	Silicon Chip (1st, 2nd)	-	4G Nand x8 4b	Silicon (Si)	Circuit	7440-21-3	24.53647	99.60%	995,960	17.27916%	172,792
				Oxygen		7782-44-7	0.00049	0.00%	20	0.00035%	3
				Boron		7440-42-8	0.09904	0.40%	4,020	0.06974%	697
2	Substrate	LIST	SU-FBJS-06303W H Rev.0	Glass cloth	CCL	65997-17-3	6.76309	18.00%	180,000	4.76273%	47,627
				Resistant Epoxy Resin	CCL	223769-10-6	2.25436	6.00%	60,000	1.58758%	15,876
				Heat Resistant Resin	CCL	25722-66-1	1.12718	3.00%	30,000	0.79379%	7,938
				Silica Filler	CCL	7631-86-9	3.75727	10.00%	100,000	2.64596%	26,460
				BOEHMTE	CCL	1318-23-6	0.75145	2.00%	20,000	0.52919%	5,292
				Copper	CCL	7440-50-8	22.91935	61.00%	610,000	16.14035%	161,403
								100.00%	1,000,000		
				2-Benzyl-2-(dimethylamino)-4'-morpholinobutyrophenone	PSR-4000	119313-12-1	0.08460	2.50%	25,000	0.05957%	596
				Propanol,1(or 2)-(2-methoxymethylethoxy)-	PSR-4000	34590-94-8	0.15227	4.50%	45,000	0.10723%	1,072
				Solvent naphtha (petroleum), heavy arom.	PSR-4000	64742-94-5	0.08460	2.50%	25,000	0.05957%	596
				Copper, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa.N31,.kappa.N32]-, (SP-4-1)-	PSR-4000	147-14-8	0.01861	0.55%	5,500	0.01311%	131
				Naphthalene	PSR-4000	91-20-3	0.01861	0.55%	5,500	0.01311%	131
				Other components below reportable levels	PSR-4000	-	3.02516	89.40%	894,000	2.13039%	21,304
								100.00%	1,000,000		
				Propanol, 1(or 2)-(2-methoxymethylethoxy)-	CA-40	34590-94-8	0.25379	17.50%	175,000	0.17872%	1,787
				Epoxy compounds	CA-40	Trade secret	0.10877	7.50%	75,000	0.07660%	766
				Other components below reportable levels	CA-40	-	1.08767	75.00%	750,000	0.76596%	7,660
								100.00%	1,000,000		
				Copper	conductive	7440-50-8	17.40697	99.98%	999,800	12.25840%	122,584
				Other ingredients	conductive	-	0.00348	0.02%	200	0.00245%	25
								100.00%	1,000,000		
				Nickel Metal	wire bond	7440-02-0	0.11161	100.00%	1,000,000	0.07860%	786
				Au	wire bond	7440-57-5	0.01452	100.00%	1,000,000	0.01023%	102
3	Die Attach Material (1st, 2nd)	INNOX	IDU0B3L-20T	Epoxy	Adhesive materials for die to die, die to sub UV Cure type dicing tape	29690-82-2	0.52880	20.00%	200,000	0.37239%	3,724
				Acrylate copolymer		Trade secret	0.52880	20.00%	200,000	0.37239%	3,724
				Hardener		Trade secret	0.26440	10.00%	100,000	0.18620%	1,862
				Silica		7631-86-9	1.32200	50.00%	500,000	0.93098%	9,310
								100.00%	1,000,000		
4	Wire	LT Metal	HS-G3 0.7mil	Gold	Balance Material	7440-57-5	0.17131	80.05%	800,500	0.12064%	1,206
				Silver	Enhance mechanical strength	7440-22-4	0.04066	19.00%	190,000	0.02863%	286
				Palladium	Enhance reliability	7440-05-3	0.00201	0.94%	9,400	0.00142%	14
				Others	-	-	0.00002	0.01%	100	0.00002%	0
								100.00%	1,000,000		
5	Mold Compound	KCC	KTMC5900GPU (16mm x 7.0g)	Silica, vitreous	Filler	60676-86-0	32.72449	83.50%	835,000	23.04535%	230,454
				Silicon dioxide	Filler	7631-86-9	2.15551	5.50%	55,000	1.51796%	15,180
				4,4'-Bis(2,3-epoxypropoxy)-3,3',5,5'-tetramethyl(1,1'-biphenyl)	Resin	85954-11-6	2.15551	5.50%	55,000	1.51796%	15,180
				Phenol polymer with 1,4-bis(methoxymethyl)benzene	Resin	26834-02-6	1.76360	4.50%	45,000	1.24197%	12,420
				Phenol polymer with formaldehyde	Resin	9003-35-4	0.19596	0.50%	5,000	0.13800%	1,380
				Carbon Black	Colorant	1333-86-4	0.19596	0.50%	5,000	0.13800%	1,380
								100.00%	1,000,000		
6	Solder Ball	Duksan	0.4mm(Sn/1.2Ag/0.5Cu/0.05Ni)	Tin	Remain	7440-31-5	15.10299	98.25%	982,500	10.63588%	106,359
				Silver	Conductivity Improvement	7440-22-4	0.18446	1.20%	12,000	0.12990%	1,299
				Copper	Heat resistance improvement	7440-50-8	0.07686	0.50%	5,000	0.05413%	541
				Nickel	Thermal stability of alloy	7440-02-0	0.00769	0.05%	500	0.00541%	54
								100.00%	1,000,000		
						Total	142.00035			100.00000%	1,000,000

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