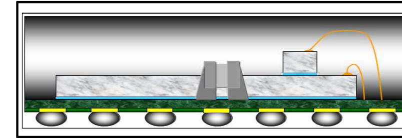
Material Declaration Sheet



-. Device : ASFC16G31M-51BIN
-. Package : 11.5 x 13.0 F153 eMMC
-. Weight (mg) : 254.601mg

Material	Substances	Vendor	Type	Purpose	CAS No.	Weight (mg)	wt % of Total unit wt	Element wt (%)	PPM
Silicon Chip 1	Silicon (Si)	SEC	16GB NAND Die	Circuit	-	42.211	16.58%	100.00%	165793
Silicon Chip 2	Silicon (Si)	SMI	SM2736 Controller	Circuit	-	1.742	0.68%	100.00%	6842
Mold Compound	Silica, vitreous	HYSOL EM	LMC705VF	Filler	60676-86-0	112.077	44.02%	87.80%	440205
	4,4'-Bis(2,3-epoxypropoxy)-3,3',5,5'-tetramethyl(1,1'-biphenyl)			Resin	85954-11-6	4.468	1.75%	3.50%	17548
	Phenol polymer with 1,4-bis(methoxymethyl)benzene			Resin	26834-02-6	3.191	1.25%	2.50%	12534
	Phenol polymer with 4,4'-bis(methoxymethyl)1,1'-bisphenyl			Resin	205830-20-2	3.064	1.20%	2.40%	12033
	Formaldehyde polymer with (chloromethyl)oxirane and 2-methylphenol			Resin	29690-82-2	3.191	1.25%	2.50%	12534
	Magnesium hydroxide			Hardener	1309-42-8	1.021	0.40%	0.80%	4011
	Carbon black			Colorant	1333-86-4	0.638	0.25%	0.50%	2507
								100.00%	
Substrate	Glass cloth	ZDT	FBJS15306S 2H SU R0	CCL DS7409HG B	65997-17-3	3.580	1.41%	18.00%	14060
	Resistant Epoxy Resin			CCL DS7409HG B	223769-10-6	1.193	0.47%	6.00%	4687
	Heat Resistant Resin			CCL DS7409HG B	25722-66-1	0.597	0.23%	3.00%	2343
	Silica Filler			CCL DS7409HG B	7631-86-9	1.989	0.78%	10.00%	7811
	BOEHMTE			CCL DS7409HG B	1318-23-6	0.398	0.16%	2.00%	1562
	Copper			CCL DS7409HG B	7440-50-8	12.131	4.76%	61.00%	47648
								100.00%	
	2-Benzyl-2-(dimethylamino)-4'-morpholinobutyrophenone			PSR-4000 AUS308	119313-12-1	0.155	0.06%	2.50%	610
	Propanol,1(or 2)-(2-methoxymethylethoxy)-			PSR-4000 AUS308	34590-94-8	0.279	0.11%	4.50%	1098
	Solvent naphtha (petroleum), heavy arom.			PSR-4000 AUS308	64742-94-5	0.155	0.06%	2.50%	610
	Copper, [29H,31H-phthalocyaninato(2-)-.kappa.N29,.kappa.N30,.kappa .N31,.kappa.N32]-, (SP-4-1)-			PSR-4000 AUS308	147-14-8	0.034	0.01%	0.55%	134
	Naphthalene			PSR-4000 AUS308	91-20-3	0.034	0.01%	0.55%	134
	Other components below reportable levels			PSR-4000 AUS308	-	5.552	2.18%	89.40%	21808
								100.00%	
	Propanol, 1(or 2)-(2-methoxymethylethoxy)-			CA-40 AUS308	34590-94-8	0.466	0.18%	17.50%	1829
	Epoxy compounds			CA-40 AUS308	Trade secret	0.200	0.08%	7.50%	784
	Other components below reportable levels			CA-40 AUS308	-	1.996	0.78%	75.00%	7841
								100.00%	
	Copper			conductive	7440-50-8	33.391	13.11%	99.98%	131149
	Other ingredients			conductive	-	0.007	0.00%	0.02%	26
								100.00%	
	Nickel Metal			wire bond	7440-02-0	0.121	0.05%	87.37%	477
	Au			wire bond	13967-50-5	0.018	0.01%	12.63%	69
								100.00%	
Solder paste	tin	Alpha	WS693CPS	Soldering	7440-31-5	0.740	0.29%	87.00%	2905
	surfactant				-	0.026	0.01%	3.00%	100
	silver				7440-22-4	0.026	0.01%	3.00%	100
	Alkoxylated alcohol.				-	0.026	0.01%	3.00%	100
	Organic acid				-	0.026	0.01%	3.00%	100
	2,2'-iminodiethanol				111-42-2	0.004	0.00%	0.50%	17
	surfactant				-	0.004	0.00%	0.50%	17
								100.00%	
Capacitor	Barium titanate(IV)	Taiyo Yuden	1uf/6.3V/X5R/C0603/0.3T	Principle component	12047-27-7	0.260	0.10%	81.25%	1021
	Nickel				7440-02-0	0.044	0.02%	13.75%	173
	Copper				7440-50-8	0.008	0.00%	2.50%	31
	Tin				7440-31-5	0.008	0.00%	2.50%	31
								100.00%	
Die Attach Material (Tape 1)	Epoxy	INNOX	IDU0B3L-20T	Adhesive materials for die to die, die to sub UV Cure type dicing tape	29690-82-2	0.604	0.24%	20.00%	2372
	Acrylate copolymer				Trade secret	0.604	0.24%	20.00%	2372
	Hardener				Trade secret	0.302	0.12%	10.00%	1186
	Silica				7631-86-9	1.510	0.59%	50.00%	5930
								100.00%	
Die Attach Material (Tape 2)	Epoxy	INNOX	IDU5C0-20T	Adhesive materials for die to die, die to sub UV Cure type dicing tape	29690-82-2	0.025	0.01%	20.00%	98
	Acrylate copolymer				Trade secret	0.025	0.01%	20.00%	98
	Hardener				Trade secret	0.012	0.00%	10.00%	49
	Silica				7631-86-9	0.062	0.02%	50.00%	245
								100.00%	
Wire	Gold	LT Metal	HS-G3 0.7mil	Balance Material	7440-57-5	0.381	0.15%	80.05%	1498
	Silver			Enhance mechanical strength	7440-22-4	0.090	0.04%	19.00%	355.5
	Palladium			Enhance reliability	7440-05-3	0.004	0.00%	0.94%	17.6
	Others			-	-	0.000	0.00%	0.01%	0.2
								100.00%	
Solder Ball	Tin	DSH	0.3mm (Sn/1.2Ag/0.5Cu/0.05Ni))	Remain	7440-31-5	15.634	6.14%	98.25%	61404
	Silver			Conductivity Improvement	7440-22-4	0.191	0.07%	1.20%	750
	Copper			Heat resistance improvement	7440-50-8	0.080	0.03%	0.50%	312
	Nickel			Thermal stability of alloy	7440-02-0	0.008	0.00%	0.05%	31
								100.00%	
					Total	254.601	100.0%		1000000.0

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