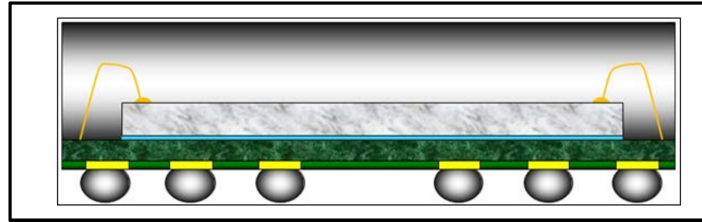
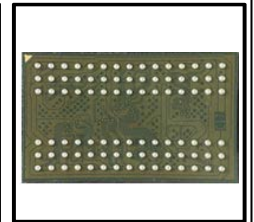
Material Declaration Sheet

-. Device : AS4C16M32MSB-6BIN
-. Package : 8.0 x 13.0 F90 FBGA
-. Weight (mg) : 145.2mg





Material	Substances	Vendor	Type	Purpose	CAS No.	Weight (mg)	wt % of Total unit wt	Element wt (%)	PPM
Silicon Chip	Silicon (Si)	**WEC**	512M LPSDR	Circuit		7.589	5.23%	100.00%	52266
Mold Compound	Silica, vitreous	EM Networks	LMC705VF	Filler	60676-86-0	66.024	45.47%	87.80%	454715
	4,4'-Bis(2,3-epoxypropoxy)-3,3',5,5'-tetramethyl(1,1'-biphenyl)			Resin	85954-11-6	2.632	1.81%	3.50%	18126
	Phenol polymer with 1,4-bis(methoxymethyl)benzene			Resin	26834-02-6	1.880	1.29%	2.50%	12947
	Phenol polymer with 4,4'-bis(methoxymethyl)1,1'-bisphenyl			Resin	205830-20-2	1.805	1.24%	2.40%	12430
	Formaldehyde polymer with (chloromethyl)oxirane and 2-methylphenol			Resin	29690-82-2	1.880	1.29%	2.50%	12947
	Magnesium hydroxide			Hardener	1309-42-8	0.602	0.41%	0.80%	4143
	Carbon black			Colorant	1333-86-4	0.376	0.26%	0.50%	2589
								100.00%	
Substrate	Glass cloth	SCC	FBJS09003W 2H SU R0	Core material	65997-17-3	5.776	3.98%	12.39%	39779
	Copper			Core material	7440-50-8	13.752	9.47%	29.50%	94712
	Epoxy			Core material	28906-96-9	1.375	0.95%	2.95%	9471
	Heat Resistant Resin			Core material	25722-66-1	1.513	1.04%	3.25%	10418
	Silica Filler			Core material	7631-86-9	2.888	1.99%	6.20%	19890
	Resistant Epoxy Resin			Core material	223769-10-6	1.375	0.95%	2.95%	9471
	Metal Hydroxide			Core material	1318-23-6	0.825	0.57%	1.77%	5683
	3-methoxy-3-methylbutylacetate			Solder mask	103429-90-9	1.744	1.20%	3.74%	12008
	Morpholine derivative			Solder mask	Tradesecret	0.308	0.21%	0.66%	2119
	Barium Sulfate			Solder mask	7727-43-7	2.061	1.42%	4.42%	14197
	Talc containing no asbestiform fibers			Solder mask	14807-96-6	0.308	0.21%	0.66%	2119
	Dipropylene glycol monomethyl ether			Solder mask	34590-94-8	0.615	0.42%	1.32%	4238
	Naphthalene(Carc.Cat.3;R40)			Solder mask	91-20-3	0.082	0.06%	0.18%	565
	Epoxy resin(MW≦700)			Solder mask	Tradesecret	1.089	0.75%	2.34%	7501
	3-methoxy-3-methylbutylacetate			Solder mask	103429-90-9	0.103	0.07%	0.22%	706
	Epoxy resin(MW≦700)			Solder mask	85954-11-6	0.757	0.52%	1.62%	5213
	Barium Sulfate			Solder mask	7727-43-7	1.959	1.35%	4.20%	13491
	Dipropylene glycol monomethyl ether			Solder mask	34590-94-8	1.231	0.85%	2.64%	8476
	Copper Oxide			Copper plating	1317-38-0	0.462	0.32%	0.99%	3182
	Others			Copper plating	/	0.004	0.00%	0.01%	29
	Gold Potassium Cyanide			Metal plating	13967-50-5	0.475	0.33%	1.02%	3271
	Nickel Sulfamate Tetrahydrate			Metal plating	124594-15-6	7.916	5.45%	16.98%	54519
								100.00%	
Die Attach Material (Tape)	Epoxy	INNOX	IDU0B3L-20T	Adhesive materials for die to die, die to sub UV Cure type dicing tape	29690-82-2	0.109	0.07%	20.00%	748
	Acrylate copolymer				Trade secret	0.109	0.07%	20.00%	748
	Hardener				Trade secret	0.054	0.04%	10.00%	374
	Silica				7631-86-9	0.271	0.19%	50.00%	1869
								100.00%	
Wire	Gold	LT Metal	HS-G3 0.7mil	Balance Material	7440-57-5	0.321	0.22%	80.05%	2213
	Silver			Enhance mechanical strength	7440-22-4	0.076	0.05%	19.00%	525
	Palladium			Enhance reliability	7440-05-3	0.004	0.00%	0.94%	26
	Others			-	-	0.000	0.00%	0.01%	0
								100.00%	
Solder Ball	Tin	DSH	0.3mm(Sn/1.2Ag/0.5Cu/0.05Ni)	Remain	7440-31-5	14.590	10.05%	98.25%	100483
	Silver			Conductivity Improvement	7440-22-4	0.178	0.12%	1.20%	1227
	Copper			Heat resistance improvement	7440-50-8	0.074	0.05%	0.50%	511
	Nickel			Thermal stability of alloy	7440-02-0	0.007	0.01%	0.05%	51
								100.00%	
					Total	145.200	100.0%		

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