

Product / Package Information

Package	CSP BGA
Body Size	12 X 12 mm
Ball Count	160
Terminal Finish	SnAgCu
Ball Size	0.45 mm
MS Number	MS011251A + MS011200A

Environmental Information

RoHS Compliant	Yes
High Temperature Compliant	Yes
Halogen Free Compliant	Yes
REACH SVHC Compliant	Yes

Materials Declaration

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Other inorganic materials	Silicon dioxide	60676-86-0	3.98 E-03	
Other organic materials	p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	6.12 E-04	10.20	102000	0.17		1665
Thermosets	Bisphenol F type liquid epoxy resin	9003-36-5	6.12 E-04	10.20	102000	0.17		1665
Other organic materials	Amine type hardener	Proprietary	4.59 E-04	7.65	76530	0.12		1249
Thermosets	Bisphenol A type liquid epoxy resin	25068-38-6	1.53 E-04	2.55	25500	0.04		416
Others	Additive	Proprietary	1.53 E-04	2.55	25500	0.04		416
Other inorganic materials	Carbon Black	1333-86-4	3.06 E-05	0.51	5100	0.01		83
Subtotal	Subtotal		6.00 E-03	100.00	1000030	1.63		16323

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Other inorganic materials	Silica	60676-86-0	1.39 E-01	
Thermosets	Epoxy resin	Proprietary	9.70 E-03	6.00	60000	2.64		26375
Thermosets	Phenol Resin	Proprietary	9.70 E-03	6.00	60000	2.64		26375
Other inorganic materials	Metal Hydroxide	Proprietary	2.42 E-03	1.50	15000	0.66		6594
Other inorganic materials	Carbon Black	1333-86-4	4.85 E-04	0.30	3000	0.132		1319
Subtotal	Subtotal		1.62 E-01	100.00	1000000	43.96		43957

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Copper & its alloys	Copper Foil	7440-50-8	1.06 E-02	
Composite	Glass Cloth	65997-17-3	2.02 E-02	18.21	182104	5.48		54844
Other inorganic materials	Inorganic Filler/Silica Filler	Proprietary/7631-86-9	8.06 E-03	7.28	72842	2.19		21937
Thermoset	Epoxy	7328-97-4	4.03 E-03	3.64	36421	1.10		10969
Thermoset	Flame Resistant Epoxy Resin	223789-10-6	4.03 E-03	3.64	36421	1.10		10969
Thermoset	Heat Resistant Resin	25722-66-1	4.03 E-03	3.64	36421	1.10		10969
Organic materials	Acrylic resin	Proprietary	1.69 E-03	1.52	15233	0.46		4588
Other inorganic materials	Barium Sulfate, Silica, Talc	Proprietary	1.72 E-03	1.55	15534	0.47		4678
Organic materials	3-Methoxy-3-Methyl Butyl-Acetate	Proprietary	9.47 E-04	0.85	8550	0.26		2575
Organic materials	Epoxy resin	Proprietary	8.87 E-04	0.80	8008	0.24		2412
Organic materials	Dipropylene Glycol Monomethyl Ether	34590-94-8	6.07 E-04	0.55	5479	0.17		1650
Organic materials	Acrylic monomer	Proprietary	2.60 E-04	0.23	2348	0.07		707
Organic materials	Aromatic Carbonyl Compound	Proprietary	1.67 E-04	0.15	1505	0.05		453
Organic materials	High Boiling Point Petroleum Solvent	Proprietary	1.60 E-04	0.14	1445	0.04		435
Others	Leveling agents & others	Proprietary	1.07 E-04	0.10	983	0.03		290
Organic materials	Organic Filler	Proprietary	8.67 E-05	0.08	783	0.02		236
Organic materials	Amine compound	Proprietary	2.67 E-05	0.02	241	0.01		73
Organic materials	Phthalocyanine green, Organic Pigment	Proprietary	1.33 E-05	0.01	120	0.004		36
Copper & its alloys	Soldermask Subtotal		6.62 E-03	6.02	60210	1.81		18133
Copper & its alloys	Copper plating	7440-50-8	4.29 E-02	47.79	477853	14.39		143913
Tin & its alloys	Tin	7440-31-5	2.22 E-04	96.50	965000	0.06		604
Tin & its alloys	Silver	7440-22-4	6.90 E-06	3.00	30000	0.002		19
Tin & its alloys	Copper	7440-50-8	1.15 E-06	0.50	5000	0.0003		3
Subtotal	SOP Subtotal		2.30 E-04	100.00	1000000	0.06		620
Subtotal	SOP Subtotal		2.30 E-04	0.21	2078	0.06		620
Subtotal			1.11 E-01	100.00	1000000	30		301167

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Tin & its alloys	Tin	7440-31-5	5.46 E-02	
Tin & its alloys	Silver	7440-22-4	1.70 E-03	3.00	30000	0.46		4617
Tin & its alloys	Copper	7440-50-8	2.83 E-04	0.50	5000	0.08		769
Subtotal			5.66 E-02	100	1000000	15.39		153890

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Other inorganic materials	Doped Silicon	7440-21-3	2.16 E-02	

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				Percentage (%)	PPM	Percentage (%)	PPM	
				Tin & its alloys	Tin	7440-31-5	1.05 E-02	
Tin & its alloys	Silver	7440-22-4	1.92 E-04	1.80	18000	0.05		522
Subtotal			1.07 E-02	100.00	1000000	2.90		28985

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Other organic materials	Resin	Proprietary	5.64 E-06	
Other organic materials	Tetraethylene Glycol Dimethacrylate	109-17-1	1.21 E-06	14.56	145600	0.00		3
Other organic materials	Trifluoroacetic Anhydride	407-25-0	4.84 E-07	5.83	58300	0.000		1
Other organic materials	4,4'-Oxydipthalic Anhydride	1823-59-2	4.84 E-07	5.83	58300	0.000		1
Other organic materials	2-Hydroxyethyl Methacrylate	868-77-9	4.84 E-07	5.83	58300	0.000		1
Subtotal			8.30 E-06	100.00	1000000	0.00		23

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
				Nickel and its alloys	Nickel	7440-02-0	4.09 E-04	
Copper & its alloys	Copper	7440-50-8	3.09 E-05	6.86	68590	0.008		84
Other non-ferrous metals and	Titanium	7440-32-6	1.04 E-05	2.31	23085	0.003		28
Subtotal			4.51 E-04	100.00	1000000	0.12		1226

Package Totals			Weight (g)	3.68 E-01		Percentage (%)	100.00	PPM	1000000
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Note: The information provided in this declaration are true to the best of ADI's knowledge.

ADI derived most of the information listed in this declaration from documents provided by third parties, and assumes no liability to any inaccuracy of such information.



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