

Product / Package Information

Package	CSP BGA
Body Size	19 X 19 mm
Ball Count	324
Terminal Finish	SnAgCu
Ball Size	0.60 mm

Environmental Information

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

Materials Declaration

Molding Compound

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
Other inorganic materials	Silica	60676-86-0	1.48 E-01	86.20	862000	14.72		147205
Thermosets	Epoxy resin	Proprietary	1.03 E-02	6.00	60000	1.02		10246
Thermosets	Phenolic Resin	Proprietary	1.03 E-02	6.00	60000	1.02		10246
Other inorganic materials	Metal Hydroxide	Proprietary	2.58 E-03	1.50	15000	0.26		2562
Other inorganic materials	Carbon Black	1333-86-4	5.16 E-04	0.30	3000	0.05		512
Subtotal	Subtotal		1.72 E-01	100.0	1000000	17.08		17077

Laminate

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
Thermoset	Prepreg resin	Proprietary	6.98 E-02	13.14	131400	6.93		69300
Other inorganic materials	Prepreg Glass Cloth	Proprietary	4.27 E-02	8.03	80300	4.24		42362
Others	Prepreg Filler	Proprietary	4.27 E-02	8.03	80300	4.24		42362
Copper & its alloys	Copper Foil	Proprietary	7.52 E-02	14.16	141600	7.47		74701
Other inorganic materials	Glass Cloth	Proprietary	1.79 E-02	3.36	33600	1.77		17726
Thermoset	Core Resin	Proprietary	3.02 E-02	5.69	56900	3.00		30018
Others	Core Filler	Proprietary	3.34 E-02	6.28	62800	3.31		33130
	Laminate Core Subtotal		3.12 E-01	58.69	586900	30.95		309500
Thermoset	Soldermask Acrylate Resin	Proprietary	3.04 E-02	5.72	57200	3.02		30176
Other inorganic materials	Barium Sulfate, Silica, Talc	Proprietary	2.32 E-02	4.36	43600	2.30		23001
Other inorganic materials	3-Methoxy-3-Methyl Butyl-Acetate	Proprietary	1.71 E-02	3.21	32100	1.69		16934
Thermoset	Epoxy Resin	Proprietary	1.60 E-02	3.01	30100	1.59		15879
Other organic materials	Dipropylene glycol monomethyl ether	34590-94-8	1.03 E-02	2.06	20600	1.09		10968
Other inorganic materials	Barium Sulfate	7727-43-7	1.47 E-03	2.81	28100	1.47		14700
Other organic materials	Acrylic Monomer	Proprietary	4.68 E-03	0.88	8800	0.46		4642
Other organic materials	Aromatic Carbonyl Compound	Proprietary	3.03 E-03	0.57	5700	0.30		3007
Other organic materials	High Boiling Point Petroleum Solvent	Proprietary	2.87 E-03	0.54	5400	0.28		2849
Others	Leveling Agents & Others	Proprietary	1.91 E-03	0.36	3600	0.19		1899
Other organic materials	Organic Fillers	Proprietary	1.54 E-03	0.29	2900	0.15		1530
Other organic materials	Amine Compound	Proprietary	4.78 E-04	0.09	900	0.05		475
Other organic materials	Phthalocyanine Green, Organic Pigment	Proprietary	2.65 E-04	0.05	500	0.03		264
	Soldermask Subtotal		1.20 E-01	22.61	226100	11.93		11922
Copper & its alloys	Copper	7440-50-8	9.57 E-02	18.00	180000	9.50		94959
Nickel & its alloys	Nickel	7440-02-0	3.19 E-03	0.60	6000	0.32		3165
Precious metals	Gold	7440-57-5	5.31 E-04	0.10	1000	0.05		529
Subtotal	Subtotal		5.31 E-01	100.0	1000000	53		527551

Solder Ball

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
Tin & its alloys	Tin	7440-31-5	2.62 E-01	96.50	965000	25.99		259881
Tin & its alloys	Silver	7440-22-4	8.14 E-03	3.00	30000	0.81		8079
Tin & its alloys	Copper	7440-50-8	1.36 E-03	0.60	6000	0.13		1367
Subtotal	Subtotal		2.71 E-01	100	1000000	26.93		26939

Bond Wires

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
Precious metals	Gold	7440-57-5	1.39 E-02	99	990000	1.38		13766
Precious metals	Palladium	7440-05-3	1.40 E-02	1	10000	0.01		138
Subtotal	Subtotal		1.40 E-02	100	1000000	1.39		13905

Chip

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
Other inorganic materials	Doped Silicon	7440-21-3	1.87 E-02	100	1000000	1.85		18530

Die Attach

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		PPM
				Percentage (%)	PPM	Percentage (%)	PPM	
Precious metals	Silver	7440-22-4	1.29 E-05	66.11	661100	0.13		1279
Other organic materials	Polymeric material	Proprietary	3.21 E-04	16.53	165300	0.03		319
Other organic materials	Acrylate resin	Proprietary	1.21 E-04	6.20	62000	0.01		120
Other organic materials	Diester resin	Proprietary	1.21 E-04	6.20	62000	0.01		120
Other organic materials	Functionalized urethane resin	Proprietary	4.82 E-05	2.48	24800	0.005		48
Thermoset	Epoxy resin	Proprietary	4.82 E-05	2.48	24800	0.005		48
Subtotal	Subtotal		1.94 E-03	100.00	1000000	0.19		1931

Package Totals			Weight (g)	1.01 E+00		Percentage (%)	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 for any inaccuracy of such information.



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