Product / Package Information

Package	CSP BGA
Body Size (mm)	5 X 5
Ball Count	52
Terminal Finish	SnAgCu
Ball Size (mm)	0.30

Environmental Information

RoHS Compliant	Yes
High Temperature Compliant	Yes
Halogen Free Compliant	No
REACH SVHC Compliant	Yes

Materials Declaration

Molding Compound

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Silica	60676-86-0	2.58 E-02	86.20	862000	50.89	508870
Thermosets	Epoxy resin	Proprietary	1.80 E-03	6.00	60000	3.54	35420
Thermosets	Phenol Resin	Proprietary	1.80 E-03	6.00	60000	3.54	35420
Other inorganic materials	Metal Hydroxide	Proprietary	4.50 E-04	1.50	15000	0.89	8855
Other inorganic materials	Carbon Black	1333-86-4	8.99 E-05	0.30	3000	0.18	1771
Subtotal	Subtotal		3.00 E-02	100.0	1000000	59.03	590336

Laminate

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Thermoset	Prepreg resin	Proprietary	9.67 E-04	9.304	93040	1.90	19040
Other inorganic materials	Prepreg Glass Cloth	Proprietary	5.25 E-04	5.051	50510	1.03	10337
	Prepreg Filler	Proprietary	3.41 E-04	3.278	32780	0.67	6708
	Copper Foil	Proprietary	9.21 E-04	8.86	88610	1.81	18133
Other inorganic materials	Glass Cloth	Proprietary	3.87 E-04	3.72	37220	0.76	7617
Thermoset	Core Resin	Proprietary	3.41 E-04	3.28	32780	0.67	6708
	Core Filler	Proprietary	1.56 E-04	1.51	15060	0.31	3082
	Laminate Core Subtotal		3.64 E-03	35.00	350000	7.16	71625
Thermoset	Soldermask Acrylate Resin	Proprietary	4.21 E-04	4.05	40480	0.83	8284
Other inorganic materials	Barium Sulfate, Silica, Talc	Proprietary	3.21 E-04	3.09	30880	0.63	6319
Other organic materials	3-Methoxy-3-Methyl Butyl-Acetate	Proprietary	2.36 E-04	2.27	22720	0.46	4650
Thermoset	Epoxy Resin	Proprietary	2.21 E-04	2.13	21280	0.44	4355
Other organic materials	Dipropylene glycol monomethyl ether	34590-94-8	1.51 E-04	1.46	14560	0.30	2980
Other inorganic materials	Barium Sulfate	7727-43-7	1.08 E-04	1.04	10400	0.21	2128
Other organic materials	Acrylic Monomer	Proprietary	6.48 E-05	0.62	6240	0.13	1277
Other organic materials	Aromatic Carbonyl Compound	Proprietary	4.16 E-05	0.40	4000	0.08	819
Other organic materials	High Boiling Point Petroleum Solvent	Proprietary	3.99 E-05	0.38	3840	0.08	786
Others	Levelling Agents & Others	Proprietary	2.66 E-05	0.26	2560	0.05	524
Other organic materials	Organic Fillers	Proprietary	2.16 E-05	0.21	2080	0.04	426
Other organic materials	Amine Compound	Proprietary	6.65 E-06	0.06	640	0.01	131
Other organic materials	Phthalcyanine Green, Organic Pigment	Proprietary	3.32 E-06	0.03	320	0.01	65
	Soldermask Subtotal		1.66 E-03	16.00	160000	3.27	32743
Copper & its alloys	Copper	7440-50-8	4.68 E-03	45.00	450000	9.21	92090
Nickel & its alloys	Nickel	7440-02-0	3.12 E-04	3.00	30000	0.61	6139
Precious metals	Gold	7440-57-5	1.04 E-04	1.00	10000	0.20	2046
Subtotal			1.04 E-02	100.0	1000000	20	204644

Solder Ball

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	5.25 E-03	96.50	965000	10.34	103432
Tin & its alloys	Silver	7440-22-4	1.63 E-04	3.00	30000	0.32	3216
Tin & its alloys	Copper	7440-50-8	2.72 E-05	0.50	5000	0.05	536
Subtotal			5.44 E-03	100	1000000	10.72	107183

Bond Wires

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Gold	7440-57-5	6.73 E-05	99	990000	0.13	1326
Precious metals	Palladium	7440-05-3	6.80 E-07	1	10000	0.00	13
Subtotal			6.80 E-05	100	1000000	0.13	1339

Chip

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Doped Silicon	7440-21-3	4.32 E-03	100	1000000	8.51	85097

Die Attach

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Silver	7440-22-4	4.59 E-04	79.38	793800	0.90	9050
Other organic materials	Bismaleimide monomer	TS# 10049	4.60 E-05	7.94	79400	0.09	905
Other organic materials	Acrylate monomer	TS# 10064	1.83 E-05	3.17	31700	0.04	361
Other organic materials	Epoxy resin	TS# 10042	1.83 E-05	3.17	31700	0.04	361
Other organic materials	Carbamate resin	TS# 10063	1.83 E-05	3.17	31700	0.04	361
Thermoset	Acrylic resin	TS# 10051	1.83 E-05	3.17	31700	0.04	361
Subtotal			5.79 E-04	100.00	1000000	1.14	11400

	Weight (g)	Percentage (%)	PPM
Package Totals	**5.08 E-02**	**100.00**	**1000000**

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.

ANALOG DEVICES

ADI Proprietary