

Product / Package Information

Package	CSP BGA
Body Size (mm)	19 X 19
Ball Count	425
Terminal Finish	SnAgCu
Ball Size	0.45 mm

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	60876-86-0	2.49 E-01	86.2	862000	33.85	338463
Thermosets	Epoxy resin	Proprietary	1.73 E-02	6.0	60000	2.36	23559
Thermosets	Phenol Resin	Proprietary	1.73 E-02	6.0	60000	2.36	23559
Other inorganic materials	Metal Hydroxide	Proprietary	4.34 E-03	1.5	15000	0.59	5890
Other inorganic materials	Carbon Black	1333-86-4	8.67 E-04	0.3	3000	0.12	1178
Subtotal	Subtotal		2.89 E-01	100.0	1000000	39.26	392648

Laminate

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Copper & its alloys	Copper Foil	7440-50-8	4.16 E-02	16.00	160000	5.65	56485
Other inorganic materials	Glass Cloth	Proprietary	4.16 E-02	16.00	160000	5.65	56485
Thermoset	Core Resin	Proprietary	2.60 E-02	10.00	100000	3.53	35303
	Laminate Core Subtotal		1.09 E-01	42.00	420000	14.83	148272
Thermoset	Soldermask Acrylate Resin	Proprietary	1.34 E-02	5.16	51600	1.82	18216
Other inorganic materials	Barium Sulfate	7727-43-7	1.19 E-02	4.56	45600	1.61	16098
Thermoset	Epoxy Resin	Proprietary	6.81 E-03	2.62	26200	0.92	9249
Other organic materials	Dipropylene glycol monomethyl ethe	34590-94-8	4.99 E-03	1.92	19200	0.68	6778
Other organic materials	Solvent naphtha (petroleum), Heavy arorr	64742-94-5	4.78 E-03	1.84	18400	0.65	6496
Other organic materials	Diethylene glycol monoethyl ether acetate	112-15-2	3.90 E-03	1.50	15000	0.53	5295
Other organic materials	Acrylic Ester Monomer	Proprietary	1.98 E-03	0.76	7600	0.27	2683
Other inorganic materials	Talc	14807-96-6	1.35 E-03	0.52	5200	0.18	1836
Other organic materials	Morpholine Derivatives	Proprietary	1.30 E-03	0.50	5000	0.18	1765
Other organic materials	Urethane Resin	Proprietary	6.76 E-04	0.26	2600	0.09	918
Other inorganic materials	Silane Compounds	Proprietary	4.78 E-04	0.18	1840	0.06	650
Other organic materials	Triazine derivatives	Proprietary	1.77 E-04	0.07	680	0.024	240
Other inorganic materials	Pigment Green	328-53-6	1.30 E-04	0.050	500	0.018	177
Other inorganic materials	Silica	7631-86-9	1.35 E-04	0.052	520	0.018	184
Other inorganic materials	Pigment Yellow	5468-75-7	1.56 E-05	0.006	60	0.002	21
	Soldermask Subtotal		5.20 E-02	20.00	200000	7.06	70606
Copper & its alloys	Copper	7440-50-8	8.32 E-02	32.0	320000	11.30	112969
Nickel & its alloys	Nickel	7440-02-0	1.30 E-02	5.0	50000	1.77	17651
Precious metals	Gold	7440-57-5	2.60 E-03	1.0	10000	0.35	3530
Subtotal			2.60 E-01	100.0	1000000	35	353028

Solder Ball

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	1.45 E-01	96.50	965000	19.68	196756
Tin & its alloys	Silver	7440-22-4	4.50 E-03	3.00	30000	0.61	6119
Tin & its alloys	Copper	7440-50-8	7.51 E-04	0.50	5000	0.10	1019
Subtotal			1.50 E-01	100	1000000	20.39	203893

Bond Wires

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Gold	7440-57-5	3.07 E-03	99.99	1000000	0.42	4174

Chip

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Doped Silicon	7440-21-3	3.05 E-02	100	1000000	4.14	41421

Die Attach

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Silver	7440-22-4	2.35 E-03	66.11	661100	0.32	3197
Other organic materials	Polymeric material	Proprietary	5.80 E-04	16.53	165300	0.08	799
Other organic materials	Acrylate resin	Proprietary	2.21 E-04	6.20	62000	0.03	300
Other organic materials	Diester resin	Proprietary	2.21 E-04	6.20	62000	0.03	300
Other organic materials	Functionalized urethane resin	Proprietary	8.83 E-05	2.48	24800	0.01	120
Thermoset	Epoxy resin	Proprietary	8.83 E-05	2.48	24800	0.01	120
Subtotal			3.56 E-03	100.00	1000000	0.48	4836

Package Totals	Weight (g)	Percentage (%)	PPM
	7.36 E-01	100.00	1000000

Note: The information provided in this declaration are true to the best of ADI's knowledge.

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