



Product / Package Information	
Package	CSP BGA - Exposed Die
Body Size (mm)	9 X 9
Ball Count	84
Terminal Finish	SnAgCu
Ball Size (mm)	0.45

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

Materials Declaration

Underfill							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Silicon dioxide	60676-86-0	4.96 E-03	55.08	550840	2.27	22654
Other organic materials	p-(2,3-epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline	5026-74-4	1.53 E-03	16.95	169490	0.70	6970
Thermosets	Bisphenol F type liquid epoxy resin	9003-36-5	1.53 E-03	16.95	169490	0.70	6970
Other organic materials	Amine type hardener	Proprietary	5.72 E-04	6.36	63560	0.26	2614
Thermosets	Bisphenol A type liquid epoxy resin	25068-39-6	1.91 E-04	2.12	21190	0.09	871
Others	Additive	Proprietary	1.91 E-04	2.12	21190	0.09	871
Other inorganic materials	Carbon Black	1333-86-4	3.82 E-05	0.42	4240	0.02	174
Subtotal			9.00 E-03	100.00	1000000	4.11	41126

Laminate							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Composite	Glass Cloth	65997-17-3	1.35 E-02	16.75	167480	6.18	61779
Copper & its alloys	Copper	7440-50-8	8.17 E-03	10.12	101200	3.73	37330
Other inorganic materials	Silica Filler	Proprietary	5.94 E-03	7.36	73599	2.71	27149
Thermoset	Epoxy	7328-97-4	3.14 E-03	3.89	38900	1.43	14349
Thermoset	Flame Resistant Epoxy Resin	223769-10-6	2.80 E-03	3.47	34700	1.28	12800
Thermoset	Heat Resistant Resin	25722-66-1	2.80 E-03	3.47	34700	1.280	12800
Other inorganic materials	Metal Hydroxide	Proprietary	1.74 E-03	2.16	21600	0.80	7968
Laminate Core Subtotal			3.64 E-02	47.22	472179	17.42	174173
Thermoset	Epoxy resin	85954-11-6	4.96 E-03	6.14	61400	2.26	22649
Other inorganic materials	Barium Sulfate	7727-43-7	7.43 E-04	0.92	9200	0.34	3394
Other inorganic materials	Talc	Proprietary	7.43 E-04	0.92	9200	0.34	3394
Other inorganic materials	Silica	7631-86-9	7.43 E-04	0.92	9200	0.34	3394
Other organic materials	Organic Filler	Proprietary	7.43 E-04	0.92	9200	0.34	3394
Others	Additives	Proprietary	1.05 E-04	0.13	1300	0.05	480
Other organic materials	Organic pigment	Proprietary	8.07 E-06	0.01	100	0.004	37
Other organic materials	Phthalocyanine blue	147-14-6	8.07 E-06	0.01	100	0.004	37
Soldermask Subtotal			8.05 E-03	9.97	99700	3.68	36776
Tin & its alloys	Tin	7440-31-5	3.55 E-04	0.44	4400	0.16	1623
Tin & its alloys	Silver	7440-22-4	8.07 E-06	0.01	100	0.004	37
Tin & its alloys	Copper	7440-50-8	1.70 E-06	0.002	21	0.001	8
Others	Flux	Proprietary	4.84 E-05	0.060	600	0.022	221
Solderpaste Subtotal			3.65 E-04	0.51	5121	0.19	1889
Copper & its alloys	Copper	7440-50-8	3.41 E-02	42.21	422100	15.57	155701
Nickel & its alloys	Nickel	7440-02-0	6.46 E-05	0.08	800	0.03	295
Precious metals	Gold	7440-57-5	8.07 E-06	0.01	100	0.00	37
Subtotal			8.07 E-02	100.00	1000000	36.89	368871

Solder Ball							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	2.87 E-02	96.50	965000	13.10	131019
Tin & its alloys	Silver	7440-22-4	8.91 E-04	3.00	30000	0.41	4073
Tin & its alloys	Copper	7440-50-8	1.49 E-04	0.50	5000	0.07	679
Subtotal			2.97 E-02	100	1000000	13.58	135771

Chip							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Doped Silicon	7440-21-3	7.93 E-02	100	1000000	36.23	362250

Wafer Bump							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	2.35 E-03	96.50	965000	1.07	10742
Tin & its alloys	Silver	7440-22-4	7.31 E-05	3.00	30000	0.03	334
Tin & its alloys	Copper	7440-50-8	1.22 E-05	0.50	5000	0.01	56
Subtotal			2.44 E-03	100.00	1000000	1.11	11131

UBM							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Copper & its alloys	Copper	7440-50-8	3.35 E-04	65.33	653270	0.15	1530
Nickel & its alloys	Nickel	7440-02-0	1.43 E-04	27.96	279564	0.07	655
Nickel & its alloys	Vanadium	7440-62-2	1.33 E-05	2.60	25970	0.006	61
Titanium & its alloys	Titanium	7440-32-6	2.11 E-05	4.12	41196	0.010	97
Subtotal			5.13 E-04	100.00	1000000	0.23	2343

Polyimide							
Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other organic materials	Photosensitive PolyimideResin	Proprietary	1.37E-02	80.00	800000	6.28	62806
Other organic materials	Acrylate Ester	Proprietary	2.29E-03	13.33	133333	1.05	10468
Others	Proprietary Ingredients	Proprietary	1.15E-03	6.67	66667	0.52	5234
Subtotal			1.72E-02	100.00	1000000	7.85	78507

Package Totals			Weight (g)	Percentage (%)	PPM
			2.19 E-01	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.



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