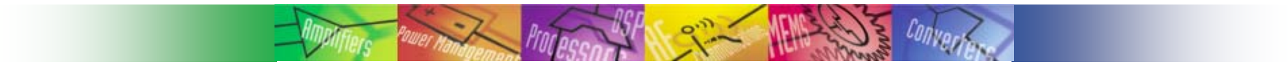

Product / Package Information

Package	CSP BGA - Stacked Die
Body Size (mm)	9 X 9
Ball Count	128
Terminal Finish	SnAgCu
Ball Size (mm)	0.40

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	1.05 E-01	88.73	887300	51.23	512291
Thermosets	Epoxy resin	Proprietary	5.54 E-03	4.70	47000	2.71	27136
Thermosets	Phenol Resin	Proprietary	5.54 E-03	4.70	47000	2.71	27136
Other inorganic materials	Metal Hydroxide	Proprietary	1.85 E-03	1.57	15700	0.91	9065
Other inorganic materials	Carbon Black	1333-86-4	3.54 E-04	0.30	3000	0.17	1732
Subtotal	Subtotal		1.18 E-01	100.00	1000000	57.74	577359

Laminate

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Thermoset	Pre-preg Resin	68541-56-0 / 29690-82-2 /25068-38-6	4.85 E-03	14.26	142600	2.37	23748
Copper & its alloys	Copper Foil	7440-50-8	4.62 E-03	13.58	135800	2.26	22616
Composite	Pre-preg Glass Cloth	65997-17-3	3.47 E-03	10.19	101900	1.70	16970
Other inorganic materials	Pre-preg Filler	Proprietary	1.85 E-03	5.43	54300	0.90	9043
Composite	Core Glass Cloth	65997-17-3	1.94 E-03	5.70	57000	0.95	9493
Thermoset	Core Resin	68541-56-0 / 29690-82-2 /25068-38-6	1.71 E-03	5.03	50300	0.84	8377
Other inorganic materials	Core Filler	Proprietary	7.86 E-04	2.31	23100	0.38	3847
	Laminate Core Subtotal		1.92 E-02	56.50	565000	9.41	94094
Other organic materials	Solvent Naphtha, Heavy Arom	64742-94-5	2.77 E-03	8.14	81400	1.36	13556
Other inorganic materials	Barium Sulfate	7727-43-7	2.34 E-03	6.89	68900	1.15	11474
Other inorganic materials	Silica	14808-60-7	1.70 E-03	5.01	50100	0.83	8344
Other organic materials	Acetophenone Derivatives	Proprietary	1.28 E-03	3.76	37600	0.63	6262
Other organic materials	Dipropylene glycol monomethyl ether	34590-94-8	8.51 E-04	2.50	25000	0.42	4163
Other inorganic materials	Talc	14807-96-6	8.51 E-04	2.50	25000	0.42	4163
	Soldermask Subtotal		9.80 E-03	28.80	288000	4.80	47963
Copper & its alloys	Copper	7440-50-8	4.56 E-03	13.40	134000	2.23	22316
Nickel & its alloys	Nickel	7440-02-0	4.08 E-04	1.20	12000	0.20	1998
Precious Metals	Gold	7440-57-5	3.40 E-05	0.10	1000	0.02	167
Subtotal			3.40 E-02	100.00	1000000	16.7	166538

Solder Ball

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	3.06 E-02	96.50	965000	15.00	150003
Tin & its alloys	Silver	7440-22-4	9.53 E-04	3.00	30000	0.47	4663
Tin & its alloys	Copper	7440-50-8	1.59 E-04	0.50	5000	0.08	777
Subtotal			3.18 E-02	100	1000000	15.54	155444

Bond Wires

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Gold	7440-57-5	3.51 E-03	100	1000000	1.72	17179

Chip

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Doped Silicon	7440-21-3	1.58 E-02	100	1000000	7.71	77146

Die Attach 1

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Silver	7440-22-4	5.02 E-04	76.93	769300	0.25	2457
Other organic materials	Bismaleimide monomer	TS#10049	1.00 E-04	15.38	153800	0.05	491
Other organic materials	Acrylate monomer	TS #10055	5.02 E-05	7.69	76900	0.02	246
Subtotal			6.52 E-04	100.00	1000000	0.32	3193

Die Attach 2

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Silica	60676-86-0 / 7631-86-9	8.45 E-05	41.86	418600	0.04	414
Other organic materials	Di-ester resin	Proprietary	5.16 E-05	25.58	255800	0.03	253
Other organic materials	Functionalized ester	Proprietary	3.75 E-05	18.60	186000	0.02	184
Other organic materials	Epoxy resin	Proprietary	1.41 E-05	6.98	69800	0.01	69
Other organic materials	Polymeric material	Proprietary	1.41 E-05	6.98	69800	0.01	69
Subtotal			2.02 E-04	100.00	1000000	0.10	988

Die Attach 3

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other organic materials	Acrylic co-polymer	60676-86-0/ 7631-86-9	3.07 E-04	69.66	696600	0.15	1500
Thermoset	Epoxy resin	Proprietary	8.97 E-05	20.39	203900	0.04	439
Other organic materials	Phenol resin	Proprietary	4.38 E-05	9.95	99500	0.02	214
Subtotal			4.40 E-04	100.00	1000000	0.22	2154

			Weight (g)			Percentage (%)	PPM
Package Totals			**2.04 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.

ANALOG DEVICES

ADI Proprietary