

**Product / Package Information**

Package	LGA (Flipchip)
Body Size (mm)	7 X 7
I/O Count	48
Terminal Finish	NiPdAu
MS Number	MS012789B + MS012362D

**Environmental Information**

RoHS Compliant	Yes
High Temperature Compliant	Yes
Halogen Free Compliant	Yes
REACH SVHC Compliant	Yes
Last Updated	04-Jun-19

**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	3.49E-02	89.40	894000	36.88		366804
Thermosets	Epoxy resin	Proprietary	1.95E-03	5.00	50000	2.05		20515
Thermosets	Phenol Resin	Proprietary	1.76E-03	4.50	45000	1.85		18463
Other inorganic materials	Other	Proprietary	3.91E-04	1.00	10000	0.41		4103
Other inorganic materials	Carbon Black	1333-86-4	3.91E-05	0.10	1000	0.04		410
Subtotal			3.91 E-02	100.00	1000000	41.03		410296

**PCB Substrate**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Copper & its alloys	Copper	7440-50-8	6.92 E-03	49.09	490900	7.26		72585
Thermosets	Proprietary Resin Mixture	Trade secret	2.82 E-03	20.04	200400	2.96		29631
Glass	Glass Fabric	65987-17-3	2.00 E-03	14.23	142300	2.10		21041
Other inorganic materials	Talc containing no asbestiform fibers	14807-96-6	6.06 E-05	0.43	4300	0.06		636
Other inorganic materials	Silica, amorphous	Trade secret	2.22 E-04	1.58	15770	0.23		2332
Other inorganic materials	Barium sulfate	7727-43-7	3.84 E-04	2.72	27230	0.40		4026
Other inorganic materials	Epoxy resin	85954-11-6	1.01 E-04	0.72	7200	0.11		1065
Other inorganic materials	Other	Trade secret	1.25 E-03	8.89	88900	1.31		13145
Other organic materials	Gold	7440-57-5	3.94 E-05	0.28	2800	0.04		414
Other organic materials	Palladium	7440-05-3	3.94 E-05	0.28	2800	0.04		414
Other organic materials	Nickel	7440-02-0	2.45 E-04	1.74	17400	0.26		2573
Subtotal			1.41 E-02	100.00	1000000	14.79		147882

**Solder Paste**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Tin and its compounds	tin	7440-31-5	1.83 E-03	84.50	845000	1.92		19247
Tin and its compounds	silver	7440-22-4	6.51 E-05	3.00	30000	0.07		683
Tin and its compounds	copper	7440-50-8	3.26 E-05	1.50	15000	0.03		342
Others	diethylene glycol monobutyl ether	112-34-5	2.17 E-05	1.00	10000	0.02		228
Others	ingredients determined to be non hazardous	Trade secret	2.17 E-04	10.00	100000	0.23		2278
Subtotal			2.17 E-03	100.00	1000000	2.28		22778

**Capacitor**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Ceramic	Barium Titanate	12047-27-7	2.28 E-02	66.454	664540	23.92		239245
Termination Plating	Tin	7440-31-5	3.29 E-03	9.595	95950	3.45		34544
Termination	Silver	7440-22-4	3.25 E-03	9.471	94710	3.41		34097
Ceramic	Zinc Oxide	1314-13	2.37 E-03	6.914	69140	2.49		24892
Termination Plating	Nickel	7440-02-0	1.35 E-03	3.935	39350	1.42		14167
Ceramic	Silicon Oxide	112945-52-5	7.91 E-04	2.305	23050	0.83		8298
Ceramic	Barium Oxide	1304-28-5	2.63 E-04	0.768	7680	0.28		2765
Ceramic	Zirconium Dioxide	1314-23-4	1.32 E-04	0.385	3850	0.14		1386
Internal Electrode	Silver	7440-22-4	5.35 E-05	0.156	1560	0.06		562
Internal Electrode	Palladium	7440-05-3	5.83 E-06	0.017	170	0.01		61
Subtotal			3.43 E-02	100.000	1000000	36.00		360016

**Wafer Bump**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Tin and its alloys	Tin	7440-31-5	7.38 E-05	98.2	982000	0.08		775
Tin and its alloys	Silver	7440-22-4	1.35 E-06	1.8	18000	0.00		14
Subtotal			7.52 E-05	100.0	1000000	0.08		789

**Chip**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Other inorganic materials	Doped Silicon	7440-21-3	5.52 E-03	100.0	1000000	5.80		57986

**UBM**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Copper & its alloys	Copper	7440-50-8	1.46 E-06	79.87	798700	0.002		15
Other non-ferrous metals and alloys	Titanium	7440-32-6	3.68 E-07	20.13	201300	0.000		4
Subtotal			1.83 E-06	100.0	1000000	0.00		19

**Polyimide**

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level		
				Percentage (%)	PPM	Percentage (%)	PPM	
Other organic materials	Polyimide 1	70485-58-4	2.42 E-05	100.00	1000000	0.03		254
Subtotal			2.42 E-05	100.0	1000000	0.03		254

<b>Package Totals</b>			<b>Weight (g)</b>	<b>9.53 E-02</b>		<b>Percentage (%)</b>	<b>100.00</b>	<b>PPM</b>	<b>1000000</b>
-----------------------	--	--	-------------------	------------------	--	-----------------------	---------------	------------	----------------

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.



ADI Proprietary

AHEAD OF WHAT'S POSSIBLE™