



Semiconductor Device Type: PZC-BGA-1152-35x35x2.90mm-SAC305										
Sub-Component	Basic Substance	CAS Number	% Total Weight	mg/part	ppm	2556.84	(mg) Total	Laminate	% of Total Weight	26.74
Laminate	Glass, oxide	65997-17-3	5.08	485.80	50809		Glass, oxide	65997-17-3	19.00	
Laminate	Silica, vitreous	60676-86-0	2.03	194.32	20324		Silica, vitreous	60676-86-0	7.60	
Laminate	Epoxy Resins	Trade Secret	3.05	291.48	30485		Epoxy Resins	Trade Secret	11.40	
Laminate	Silicon dioxide	7631-86-9	1.38	131.94	13799		Silicon dioxide	7631-86-9	5.16	
Laminate	Bisphenol A Diglycidyl Ether	1675-54-3	0.34	32.94	3445		Bisphenol A Diglycidyl Ether	1675-54-3	1.29	
Laminate	Phenolic Polymer Resin, Epikote 155	9003-36-5	0.34	32.94	3445		Phenolic Polymer Resin, Epikote 155	9003-36-5	1.29	
Laminate	Epoxy Resins	Trade Secret	1.23	117.43	12282		Epoxy Resins	Trade Secret	4.59	
Laminate	Cured Resin	Trade Secret	0.42	39.88	4171		Cured Resin	Trade Secret	1.56	
Laminate	Phthalocyanine blue	147-14-8	0.00	0.13	14		Phthalocyanine blue	147-14-8	0.01	
Laminate	Organic pigment	Trade Secret	0.00	0.06	6		Organic pigment	Trade Secret	0.00	
Laminate	Silica	7631-86-9	0.00	0.31	32		Silica	7631-86-9	0.01	
Laminate	Barium sulfate	7727-43-7	0.20	19.56	2046		Barium sulfate	7727-43-7	0.77	
Laminate	Talc	14807-96-6	0.02	2.26	236		Talc	14807-96-6	0.09	
Laminate	Other	Trade Secret	0.01	0.69	72		Other	Trade Secret	0.03	
Laminate	Copper	7440-50-8	12.53	1197.89	125285		Copper	7440-50-8	46.85	
Laminate	Tin	7440-31-5	0.09	8.88	929		Tin	7440-31-5	0.35	
Laminate	Silver	7440-22-4	0.00	0.28	29		Silver	7440-22-4	0.01	
Laminate	Copper	7440-50-8	0.00	0.05	5		Copper	7440-50-8	0.00	
Die	Silicon	Trade Secret	3.36	321.01	33574		Total 100.00			
Underfill	1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	0.06	6.00	628					
Underfill	Bisphenol F type liquid epoxy resin	9003-36-5	0.04	4.00	418	321.01	(mg) Total	Die	% of Total Weight	3.36
Underfill	Bisphenol A type liquid epoxy resin	25068-38-6	0.01	1.00	105		Silicon	Trade Secret	100.00	
Underfill	Amine type hardener	Trade Secret	0.04	4.00	418		Total 100.00			
Underfill	Carbon Black	1333-86-4	0.00	0.20	21					
Underfill	Silicon dioxide	60676-86-0	0.25	23.80	2489	40.00	(mg) Total	Underfill	% of Total Weight	0.42
Underfill	Other	Trade Secret	0.01	1.00	105		1,6-Bis(2,3-epoxypropoxy)naphthalene	27610-48-6	15.00	
Solder Ball	Tin	7440-31-5	11.54	1103.66	115430		Bisphenol F type liquid epoxy resin	9003-36-5	10.00	
Solder Ball	Silver	7440-22-4	0.36	34.31	3588		Bisphenol A type liquid epoxy resin	25068-38-6	2.50	
Solder Ball	Copper	7440-50-8	0.06	5.72	598		Amine type hardener	Trade Secret	10.00	
Thermal Grease	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2	0.16	15.00	1569		Carbon Black	1333-86-4	0.50	
Thermal Grease	Treated aluminium oxide	Trade Secret	0.37	35.00	3661		Silicon dioxide	60676-86-0	59.50	
Lid Adhesive	Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2	0.19	18.00	1883		Other	Trade Secret	2.50	
Lid Adhesive	Silicon dioxide	14808-60-7	0.21	20.25	2118		Total 100.00			
Lid Adhesive	Silica, [(dimethylvinylsilyloxy)- and [(trimethylsilyloxy)-modified	68988-89-6	0.07	6.75	706					
Heat Spreader	Copper	7440-50-8	55.50	5306.06	554952	1143.69	(mg) Total	Solder Ball	% of Total Weight	11.96
Heat Spreader	Nickel	7440-02-0	0.87	83.54	8737		Tin	7440-31-5	96.50	
Copper Pillar	Tin	7440-31-5	0.16	14.88	1556		Silver	7440-22-4	3.00	
Copper Pillar	Silver	7440-22-4	0.00	0.27	28		Copper	7440-50-8	0.50	
TOTALS: 9561.29 mg Total Mass			100.00	9561.29	1,000,000	Total 100.00				
The information contained in this Material Content Declaration (MCD) consists of package-level information and is not part number specific. This information is considered to be sufficiently representative of all part numbers for the package type.						50.00	(mg) Total	Thermal Grease	% of Total Weight	0.52
							Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2	30.00	
							Treated aluminium oxide	Trade Secret	70.00	Total 100.00
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							Siloxanes and silicones, di-Me, vinyl group-terminated	68083-19-2	40.00	
							Silicon dioxide	14808-60-7	45.00	
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						Total 100.00				
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	Copper	7440-50-8	96.45							
	Nickel	7440-02-0	1.55	Total 100.00						
Microchip disclaims any duty to notify users of updates or changes to MCDs and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in MCDs.						15.15	(mg) Total	Copper Pillar	% of Total Weight	0.16
							Tin	7440-31-5	98.22	
							Silver	7440-22-4	1.78	Total 100.00
9561.29						Total 100.00 100.00				

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