



Semiconductor Device Type: QTC PBGA-456-35x35x2.60mm-SAC405						Package Homogeneous Materials				
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm	68.74	(mg) Total	Die	% of Total Weight	1.42
Silicon	7440-21-3	Die	1.42	68.74	14187		Silicon	7440-21-3	100.00	
Glass, oxide	65997-17-3	Substrate	4.81	232.90	48067					
Aluminium hydroxide oxide	24623-77-6	Substrate	2.32	112.56	23231			Total	100.00	
Bismaleimide-Triazine resin	Trade Secret	Substrate	1.63	78.84	16272	2010.70	(mg) Total	Substrate	% of Total Weight	41.50
Epoxy resin	Trade Secret	Substrate	1.09	52.91	10919		Glass, oxide	65997-17-3	11.58	
Other substances	Trade Secret	Substrate	0.84	40.46	8350		Aluminium hydroxide oxide	24623-77-6	5.60	
Bisphenol A	65873	Substrate	0.02	1.04	214		Bismaleimide-Triazine resin	Trade Secret	3.92	
Glass, oxide	65997-17-3	Substrate	6.41	310.53	64089		Epoxy resin	Trade Secret	2.63	
Aluminium hydroxide oxide	24623-77-6	Substrate	3.10	150.08	30974		Other substances	Trade Secret	2.01	
Bismaleimide-Triazine resin	Trade Secret	Substrate	2.17	105.12	21696		Bisphenol A	65873	0.05	
Epoxy resin	Trade Secret	Substrate	1.46	70.54	14559		Glass, oxide	65997-17-3	15.44	
Other substances	Trade Secret	Substrate	1.11	53.94	11134		Aluminium hydroxide oxide	24623-77-6	7.46	
Bisphenol A	65873	Substrate	0.03	1.38	285		Bismaleimide-Triazine resin	Trade Secret	5.23	
Copper	7723-14-0	Substrate	10.78	522.20	107776		Epoxy resin	Trade Secret	3.51	
Other Organic Compounds	7439-89-6	Substrate	3.23	156.66	32333		Other substances	Trade Secret	2.68	
Other Epoxy Resins	7723-14-0	Substrate	0.01	0.42	86		Bisphenol A	65873	0.07	
Proprietary - Other Organic Compounds	7440-66-6	Substrate	0.01	0.42	86		Copper	7723-14-0	25.97	
Phthalocyanine Blue	7440-50-8	Substrate	0.02	1.04	214		Other Organic Compounds	7439-89-6	7.79	
Silicon dioxide	7439-89-6	Substrate	0.89	43.16	8908		Other Epoxy Resins	7723-14-0	0.02	
Barium sulfate	7723-14-0	Substrate	0.09	4.36	899		Proprietary - Other Organic Compounds	7440-66-6	0.02	
Others	7440-66-6	Substrate	0.03	1.45	300		Phthalocyanine Blue	7440-50-8	0.05	
Nickel	7440-50-8	Substrate	1.20	58.10	11991		Silicon dioxide	7439-89-6	2.15	
Gold	7440-22-4	Substrate	0.26	12.60	2600		Barium sulfate	7723-14-0	0.22	
Silver	7440-22-4	Die Attach	0.13	6.30	1299		Others	7440-66-6	0.07	
Tetramethylene dimethacrylate	2082-81-7	Die Attach	0.01	0.71	146		Nickel	7440-50-8	2.89	
Difunctional Acrylic Esters	Trade Secret	Die Attach	0.00	0.07	15		Gold	7440-22-4	0.63	
Gold	7440-57-5	Bonding Wire	0.40	19.30	3982			Total	100.00	
Palladium	2023568	Bonding Wire	0.00	0.19	40					
Tin	7440-31-5	Solder Paste	15.49	750.31	154854	7.07	(mg) Total	Die Attach	% of Total Weight	0.15
Silver	7440-22-4	Solder Paste	0.65	31.43	6486		Silver	7440-22-4	89.00	
Copper	7440-50-8	Solder Paste	0.08	3.93	811		Tetramethylene dimethacrylate	2082-81-7	10.00	
Solid Epoxy Resin	Trade Secret	Molding Compound	2.02	97.68	20160		Difunctional Acrylic Esters	Trade Secret	1.00	
Phenol Resin	Trade Secret	Molding Compound	0.81	39.07	8064			Total	100.00	
Carbon Black	1333-86-4	Molding Compound	0.40	19.54	4032					
Metal Hydroxide	Trade Secret	Molding Compound	0.81	39.07	8064	19.49	(mg) Total	Bonding Wire	% of Total Weight	0.40
Amorphous silica	60676-86-0	Molding Compound	36.29	1758.22	362876		Gold	7440-57-5	99.00	
TOTALS: 100.00 4845.25 1,000,000							Palladium	2023568	1.00	
4845.25 mg Total Mass							Total	100.00		
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4845.25						Total	100.00	100.00		

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