MICROCHIP

Semiconductor Device Type: QWC PBGA_484_23x23x2.44mm_SnPb

Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Epoxy Resin A	Trade Secret	Mold Compound	1.36	32.62	13601
Epoxy Resin B	Trade Secret	Mold Compound	1.36	32.62	13601
Phenol Resin	Trade Secret	Mold Compound	1.36	32.62	13601
Silica, vitreous	60676-86-0	Mold Compound	32.87	788.42	328680
Silicon dioxide	7631-86-9	Mold Compound	6.80	163.12	68003
Aluminium and its compounds	Trade Secret	Mold Compound	1.36	32.62	13601
Carbon Black	1333-86-4	Mold Compound	0.23	5.44	2267
Glass, oxide	65997-17-3	Laminate	5.94	142.53	59419
Aluminium hydroxide oxide	24623-77-6	Laminate	2.87	68.88	28717
Bismaleimide-Triazine resin	Trade Secret	Laminate	2.01	48.25	20115
Epoxy resin	Trade Secret	Laminate	1.35	32.38	13498
Other substances	Trade Secret	Laminate	1.03	24.76	10322
Bisphenol A	80-05-7	Laminate	0.03	0.63	265
Glass, oxide	65997-17-3	Laminate	2.38	57.01	23767
Aluminium hydroxide oxide	24623-77-6	Laminate	1.15	27.55	11487
Bismaleimide-Triazine resin	Trade Secret	Laminate	0.80	19.30	8046
Epoxy resin	Trade Secret	Laminate	0.54	12.95	5399
Other substances	Trade Secret	Laminate	0.41	9.90	4129
Bisphenol A	80-05-7	Laminate	0.01	0.25	106
Cured Resin	Trade Secret	Laminate	0.92	21.95	9153
Phthalocyanine blue	147-14-8	Laminate	0.00	0.06	24
Organic pigment	Trade Secret	Laminate	0.00	0.06	24
Silica	Trade Secret	Laminate	0.01	0.15	61
Barium sulfate	7727-43-7	Laminate	0.25	6.05	2521
Talc	14807-96-6	Laminate	0.03	0.61	255
Antifoamer and Leveling agent	Trade Secret	Laminate	0.01	0.20	85
Nickel	7440-02-0	Laminate	0.41	9.79	4082
Gold	7440-57-5	Laminate	0.09	2.12	885
Copper	7440-50-8	Laminate	12.44	298.39	124395
Tin	7440-31-5	Solder Ball	13.22	317.19	132231
Lead	7439-92-1	Solder Ball	7.77	186.29	77660
Silver	7440-22-4	Die Attach	0.04	0.84	351
Tetramethylene dimethacrylate	2082-81-7	Die Attach	0.00	0.06	25
Acrylic Esters	Trade Secret	Die Attach	0.00	0.00	2
Silicon	7440-21-3	Die	0.84	20.10	8379
Copper	7440-50-8	Wire Bonding	0.12	2.93	1220
Palladium	7440-05-3	Wire Bonding	0.00	0.06	26
Silver	7440-22-4	Wire Bonding	0.00	0.00	0
Others	Trade Secret	Wire Bonding	0.00	0.00	0
		TOTALS:	100.00	2398.74	1,000,000

2398.74 mg Total Mass

Package Homogeneous Materials

1087.48	(mg) Total	Mold Compound	% of Total Weight	45.34
G770SFE	Epoxy Resin A	Trade Secret	3.00	
	Epoxy Resin B	Trade Secret	3.00	
	Phenol Resin	Trade Secret	3.00	
	Silica, vitreous	60676-86-0	72.50	
	Silicon dioxide	7631-86-9	15.00	
	Aluminium and its compounds	Trade Secret	3.00	
	Carbon Black	1333-86-4	0.50	
		Total	**100.00**	

783.80	(mg) Total	Laminate	% of Total Weight	32.68
Core (HL832NXA)	Glass, oxide	65997-17-3	18.18	
	Aluminium hydroxide oxide	24623-77-6	8.79	
	Bismaleimide-Triazine resin	Trade Secret	6.16	
	Epoxy resin	Trade Secret	4.13	
	Other substances	Trade Secret	3.16	
	Bisphenol A	80-05-7	0.08	
Prepreg (HL832NXA)	Glass, oxide	65997-17-3	7.27	
	Aluminium hydroxide oxide	24623-77-6	3.52	
	Bismaleimide-Triazine resin	Trade Secret	2.46	
	Epoxy resin	Trade Secret	1.65	
	Other substances	Trade Secret	1.26	
	Bisphenol A	80-05-7	0.03	
Solder Mask (AUS320)	Cured Resin	Trade Secret	2.80	
	Phthalocyanine blue	147-14-8	0.01	
	Organic pigment	Trade Secret	0.01	
	Silica	Trade Secret	0.02	
	Barium sulfate	7727-43-7	0.77	
	Talc	14807-96-6	0.08	
	Antifoamer and Leveling agent	Trade Secret	0.03	
Top Plating	Nickel	7440-02-0	1.25	
	Gold	7440-57-5	0.27	
Copper Foil	Copper	7440-50-8	38.07	
		Total	**100.00**	

503.48	(mg) Total	Solder Ball	% of Total Weight	20.99
	Tin	7440-31-5	63.00	
	Lead	7439-92-1	37.00	
		Total	**100.00**	

0.90	(mg) Total	Die Attach	% of Total Weight	0.04
	Silver	7440-22-4	93.00	
	Tetramethylene dimethacrylate	2082-81-7	6.50	
	Acrylic Esters	Trade Secret	0.50	
		Total	**100.00**	

20.10	(mg) Total	Die	% of Total Weight	0.84
	Silicon	7440-21-3	100.00	
		Total	**100.00**	

2.99	(mg) Total	Wire Bonding	% of Total Weight	0.12
	Copper	7440-50-8	97.87	
	Palladium	7440-05-3	2.10	
	Silver	7440-22-4	0.01	
	Others	Trade Secret	0.02	
		Total	**100.00**	

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