Package Material Content Declaration

Package Description	672 pin Heat Spreader Ball Grid Array (HSBGA) 27X27mm			
Lead Finish	SAC305	**MSCC / MCHP PC**	XJG / 4CC	
J-STD-609 Category	e1	**Termination Base Alloy:**	Not Applicable	

Package Material Declaration

Component/ Material	Substance Name	CAS No.	Weight (g)	% Homogeneous	PPM Homogeneous	PPM Part
Mold Compound			**0.763**	**100.00%**	**1,000,000**	**217,894**
	Epoxy Resin (1)	Trade Secret	0.02288	3.00%	30,000	6,537
	Epoxy Resin (2)	Trade Secret	0.01335	1.75%	17,500	3,813
	Hardener (1)	Trade Secret	0. 01716	2.25%	22,500	4,903
	Hardener (2)	Trade Secret	0.01716	2.25%	22,500	4,903
	Carbon Black	1333-86-4	0.00153	0.20%	2,000	436
	Silica	60676-86-0	0.69074	90.55%	905,500	197,303
Substrate			**0.89900**	**100.00%**	**1,000,000**	**256,789**
	Acrylic Resin	Trade Secret	0.004675	0.520%	5,200	1,335
	Phthalcyanine Blue, Organic Pigment	Trade Secret	0.000037	0.004%	41	11
	Barium Sulfate	7727-43-7	0.002337	0.260%	2,600	668
	Talc	14807-96-6	0.001182	0.132%	1,315	338
	Aromatic Carbonyl Compound	Trade Secret	0.000459	0.051%	511	131
	Amine Compound	Trade Secret	0.000074	0.008%	82	21
	Levelling Agents & Others	Trade Secret	0.000294	0.033%	327	84
	Dipropylene Glycol Monomethyl Ether	34590-94-8	0.001708	0.190%	1,900	488
	3-Methoxy-3-Methyl Butyl-Acetate	Trade Secret	0.002611	0.290%	2,904	746
	High Boiling Point Petroleum Solvent	64742-94-5	0.000450	0.050%	500	128
	Acrylic Monomer	Trade Secret	0.000717	0.080%	798	205
	Epoxy Resin	85954-11-6	0.002445	0.272%	2,720	698
	Organic Filler	Trade Secret	0.000243	0.027%	270	69
	Glass Cloth	65997-17-3	0.046748	5.200%	52,000	13,353
	Sillica	7631-86-9	0.007021	0.781%	7,810	2,006
	Thermosetting Resin and Other filler	Trade Secret	0.046748	5.200%	52,000	13,353
	Core Material	Trade Secret	0.150403	16.730%	167,300	42,961
	Cu	7440-50-8	0.627208	69.767%	697,673	179,155
	Ni	7440-02-0	0.003281	0.365%	3,650	937
	Au	7440-57-5	0.000360	0.040%	400	103
Die			**0.04911**	**100.00%**	**1,000,000**	**14,028**
	Si	7440-21-3	0.04911	100.00%	1,000,000	14,028
Die Attach			**0.00801**	**100.00%**	**1,000,000**	**2,288**
	Silver	7440-22-4	0.00617	77.00%	770,000	1,762
	Epoxy Resin	Trade Secret	0.00042	5.25%	52,500	120
	Functionalized Ester	Trade Secret	0.00042	5.25%	52,500	120
	Diester	Trade Secret	0.00100	12.50%	125,000	286
Wire			**0.00529637**	**100.00%**	**1,000,000**	**1,513**
	Copper	7440-50-8	0.0051703	97.62%	976,200	1,477
	Palladium	7440-05-3	0.0001165	2.20%	22,000	33
	Gold	7440-57-5	0.0000095	0.18%	1,800	3
External Plating			**0.55968**	**100.00%**	**1,000,000**	**159,866**
	Sn	7440-31-5	0.5400912	96.50%	965,000	154,271
	Ag	7440-22-4	0.0167904	3.00%	30,000	4,796
	Cu	7440-50-8	0.0027984	0.50%	5,000	799
Heatslug			**1.217**	**100.00%**	**1,000,000**	**347,622**
	Copper	7440-50-8	1.2096980	99.40%	994,000	345,537
	Nickel	7440-02-0	0.0068152	0.56%	5,600	1,947
	Chromium	7440-47-3	0.0004868	0.04%	400	139
Totals			**3.50093**			**1,000,000**

This semiconductor device and its homogenous materials comply with EU Directives: 2002/95/EC (27 January 2003) & Directive 2011/65/EU (08 June 2011) and 2015/863/EU (31 March 2015) and 2000/53/EC and 2016/774/EU (End-of-Life Vehicles (ELV) without exemption (zero)

Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.

If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.

Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL iQTM family of databases to obtain a test report at http://iq.ul.com/plastics/

The protective “tubes” in which the specific product is shipped are made from polyvinyl chloride (PVC) plastic. “Window envelopes” used to hold the packing slip on the outer box and certain “reels” may be made from PVC plastic.

Microchip Technology Incorporated believes the information in this form concerning substances restricted by RoHS in Microchip Technology Incorporated’s semiconductor devices in their original packing materials is true and correct to the best of its knowledge and belief, as of the date listed in this form. Microchip Technology Incorporated cannot guarantee the completeness and accuracy of data in this form because it has been compiled based on the ranges provided in Material Safety Data Sheets provided by raw material suppliers. Supplier information is often protected from disclosure as trade secrets and some information may not have been provided by subcontract assemblers and raw material suppliers. Information is provided only as estimates of the average weight of these parts and the average weight of anticipated significant toxic metals components. These estimates do not include trace levels of dopants, metals, and non-metal materials contained within silicon devices (silicon IC) in the finished parts.

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Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at http://echa.europa.eu/web/guest/candidate-list-table.