



Semiconductor Device Type: ARA 004 VFLGA 1.6x1.2x0.89mm			Termination Base Alloy: Copper Alloy (Cu)		
Basic Substance	CAS Number	"Contained In" Sub-Component	% Total Weight	mg/part	ppm
Silica(Amorphous) A	60676-86-0	Mold Compound	35.587	6.939	355,868
Silica(Amorphous) B	7631-86-9	Mold Compound	4.745	0.925	47,449
Epoxy Resin	Trade Secret	Mold Compound	3.823	0.746	38,233
Phenol Resin	9003-35-4	Mold Compound	1.423	0.277	14,225
Aluminium and its compounds	Trade Secret	Mold Compound	1.423	0.277	14,225
Carbon Black	1333-86-4	Mold Compound	0.260	0.051	2,599
Continuous Filament Fiber Glass	65997-17-3	Lead Frame	13.325	2.598	133,245
Bismaleimide	105391-33-1	Lead Frame	4.113	0.802	41,125
Triazine	25722-66-1	Lead Frame	4.113	0.802	41,125
Epoxy Resin	9003-36-5	Lead Frame	7.670	1.496	76,704
Inorganic Filler	21645-51-2	Lead Frame	0.306	0.060	3,055
Talc containing no as bestiform fibers	14807-96-6	Lead Frame	1.105	0.215	11,045
Morpholine derivative	trade secret	Lead Frame	1.184	0.231	11,844
Barium sulfate	7727-43-7	Lead Frame	1.532	0.299	15,322
Silica,amorphous	7631-86-9	Lead Frame	0.484	0.094	4,841
Dipropylene glycol monomethyl ether	34590-94-8	Lead Frame	0.197	0.038	1,974
Epoxy Resin	85954-11-6	Lead Frame	0.212	0.041	2,115
Copper	7440-50-8	Lead Frame	10.265	2.002	102,648
Ni	7440-02-0	Lead Frame	2.143	0.418	21,432
Au	7440-57-5	Lead Frame	0.353	0.069	3,525
Silver	7440-22-4	Die Attach 1	0.531	0.104	5,310
Epoxy Resin	Trade secret	Die Attach 1	0.059	0.012	590
SiO2 Filler	Trade Secret	Die Attach 2	0.223	0.043	2,227
Epoxy Resin	Trade Secret	Die Attach 2	0.112	0.022	1,124
Acrylic Copolymer	Trade Secret	Die Attach 2	0.067	0.013	674
Phenol Resin	Trade Secret	Die Attach 2	0.067	0.013	674
Doped Silicon	7440-21-3	Chip (Die) 1	2.590	0.505	25,900
Doped Silicon	7440-21-3	Chip (Die) 2	1.580	0.308	15,800
Doped Gold	7440-57-5	Wire Bond 1	0.360	0.070	3,600
Doped Gold	7440-57-5	Wire Bond 2	0.150	0.029	1,500
TOTALS:			100.000	19.500	1,000,000

0.0195 g Total Mass

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://ul.com/global/eng/pages/offering/industries/chemicals/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.

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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>

Package Homogeneous Materials			J-STD-609A Product Marking and/or Pkg. Labeling e3		
9.22	(mg) Total	Mold Compound	% of Total Weight	47.26	
		Silica(Amorphous) A	60676-86-0	75.30	
		Silica(Amorphous) B	7631-86-9	10.04	
		Epoxy Resin	Trade Secret	8.09	
		Phenol Resin	9003-35-4	3.01	
		Aluminium and its compounds	Trade Secret	3.01	
		Carbon Black	1333-86-4	0.55	
		Total		100.00	
9.17		(mg) Total	Lead Frame	% of Total Weight	47.00
		Continuous Filament Fiber Glass	65997-17-3	28.35	
		Bismaleimide	105391-33-1	8.75	
		Triazine	25722-66-1	8.75	
		Epoxy Resin	9003-36-5	16.32	
		Inorganic Filler	21645-51-2	0.65	
		Talc containing no as bestiform fibers	14807-96-6	2.35	
		Morpholine derivative	trade secret	2.52	
		Barium sulfate	7727-43-7	3.26	
		Silica,amorphous	7631-86-9	1.03	
		Dipropylene glycol monomethyl ether	34590-94-8	0.42	
		Epoxy Resin	85954-11-6	0.45	
		Copper	7440-50-8	21.84	
		Ni	7440-02-0	4.56	
		Au	7440-57-5	0.75	
		Total		100.00	
0.12		(mg) Total	Die Attach 1	% of Total Weight	0.59
		Silver	7440-22-4	90.00	
		Epoxy Resin	Trade secret	10.00	
		Total		100.00	
0.09		(mg) Total	Die Attach 2	% of Total Weight	0.47
		SiO2 Filler	Trade Secret	47.38	
		Epoxy Resin	Trade Secret	23.92	
		Acrylic Copolymer	Trade Secret	14.35	
		Phenol Resin	Trade Secret	14.35	
		Total		100.00	
0.51		Total (mg)	Chip (Die) 1	% of Total Weight	2.59
		Doped Silicon	7440-21-3	100	
		Total		100.00	
0.31		Total (mg)	Chip (Die) 2	% of Total Weight	1.58
		Doped Silicon	7440-21-3	100	
		Total		100.00	
0.07		(mg) Total	Wire Bond 1	% of Total Weight	0.36
		Doped Gold	7440-57-5	100.00	
		Total		100.00	
0.03		(mg) Total	Wire Bond 2	% of Total Weight	0.15
		Doped Gold	7440-57-5	100	
		Total		100.00	
19.500		Total		100.00	