Semiconductor Device Type: ASA 004 VFLGA 2.0x1.6x0.89mm NiAu

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	44.427	2.488	444,270
Silica(Amorphous) B	7631-86-9	Mold Compound	5.924	0.332	59,236
Epoxy Resin	Trade Secret	Mold Compound	4.773	0.267	47,731
Phenol Resin	9003-35-4	Mold Compound	1.776	0.099	17,759
Aluminium and its compounds	Trade Secret	Mold Compound	1.776	0.099	17,759
Carbon Black	1333-86-4	Mold Compound	0.325	0.018	3,245
Copper	7440-50-8	Lead Frame	7.018	0.393	70,185
Glass fibers	65997-17-3	Lead Frame	4.184	0.234	41,837
Phenol, polymer	9003-36-5	Lead Frame	4.184	0.234	41,837
Silica, chemically prepared	7631-86-9	Lead Frame	1.564	0.088	15,640
Nickel	7440-02-0	Lead Frame	0.762	0.043	7,625
Barite	7727-43-7	Lead Frame	0.489	0.027	4,888
Magnesium silicate	14807-96-6	Lead Frame	0.391	0.022	3,910
Araldite GY 250	25068-38-6	Lead Frame	0.391	0.022	3,910
(2-Methoxymethylethoxy)propanol	34590-94-8	Lead Frame	0.156	0.009	1,564
Misc.	system	Lead Frame	0.293	0.016	2,933
Aluminium-hydroxide-oxide	24623-77-6	Lead Frame	0.098	0.005	978
Gold	7440-57-5	Lead Frame	0.020	0.001	196
Silver	7440-22-4	Die Attach 1	0.675	0.038	6,750
Epoxy Resin	Trade secret	Die Attach 1	0.075	0.004	750
SiO2 Filler	Trade Secret	Die Attach 2	0.772	0.043	7,723
Epoxy Resin	Trade Secret	Die Attach 2	0.390	0.022	3,899
Acrylic Copolymer	Trade Secret	Die Attach 2	0.234	0.013	2,339
Phenol Resin	Trade Secret	Die Attach 2	0.234	0.013	2,339
Doped Silicon	7440-21-3	Chip (Die) 1	3.810	0.213	38,100
Doped Silicon	7440-21-3	Chip (Die) 2	1.700	0.095	17,000
Doped Gold	7440-57-5	Wire Bond 1	0.650	0.036	6,500
Doped Gold	7440-57-5	Wire Bond 2	0.150	0.008	1,500
Copper	7440-50-8	Plating on external leads (pins)	12.250	0.686	122,496
Ni	7440-02-0	Plating on external leads (pins)	0.383	0.021	3,828
Au	7440-57-5	Plating on external leads (pins)	0.128	0.007	1,276
		TOTALS:	**100.000**	**5.600**	**1,000,000**

0.0056 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/offerings/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

3.30	**(mg) Total**	**Mold Compound**	**% ot Total Weight**	**59.00**
	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**	
1.09	**(mg) Total**	**Lead Frame**	**% of Total Weight**	**19.55**
	Copper	7440-50-8	35.90	
	Glass fibers	65997-17-3	21.40	
	Phenol, polymer	9003-36-5	21.40	
	Silica, chemically prepared	7631-86-9	8.00	
	Nickel	7440-02-0	3.90	
	Barite	7727-43-7	2.50	
	Magnesium silicate	14807-96-6	2.00	
	Araldite GY 250	25068-38-6	2.00	
	(2-Methoxymethylethoxy)propanol	34590-94-8	0.80	
	Misc.	system	1.50	
	Aluminium-hydroxide-oxide	24623-77-6	0.50	
	Gold	7440-57-5	0.10	
		Total	**100.00**	
0.04	**(mg) Total**	**Die Attach 1**	**% of Total Weight**	**0.75**
	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**	**1.63**
	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**	
0.21	**Total (mg)**	**Chip (Die) 1**	**% of Total Weight**	**3.81**
	Doped Silicon	7440-21-3	100.00	
		Total	**100.00**	
0.10	**Total (mg)**	**Chip (Die) 2**	**% of Total Weight**	**1.70**
	Doped Silicon	7440-21-3	100.00	
		Total	**100.00**	
0.04	**(mg) Total**	**Wire Bond 1**	**% of Total Weight**	**0.65**
	Doped Gold	7440-57-5	100.00	
		Total	**100.00**	
0.01	**(mg) Total**	**Wire Bond 2**	**% of Total Weight**	**0.15**
	Doped Gold	7440-57-5	100.00	
		Total	**100.00**	
0.71	**(mg) Total**	**Plating on external leads (pins)**	**% of Total Weight**	**12.76**
	Copper	7440-50-8	96.00	
	Ni	7440-02-0	3.00	
	Au	7440-57-5	1.00	
		Total	**100.00**	
5.600				**100.00**